

# Me and My Dell

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- Setting Up Your Computer
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- Ports and Connectors
- Network
- Software and Applications
- Restoring Your Operating System
- Diagnostics and Troubleshooting
- BIOS
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**NOTE:** A NOTE indicates important information that helps you make better use of your computer.



**CAUTION:** A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.



**WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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# Setting Up Your Computer

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# Getting Help and Contacting Dell

If you need information about Dell products or services, or if you experience problems using your computer, you can get help from one of the self-help resources, or you can call Dell to get help from a Dell technician.

## Self-Help Options

- Access **Windows Help and Support** by clicking **Start**  **→ Help and Support**.
- See **www.microsoft.com** for more information about your Microsoft Windows operating system.

You can learn about Dell product and services at the following websites:

- [www.dell.com](http://www.dell.com)
- [www.dell.com/ap](http://www.dell.com/ap) (Asian/Pacific countries only)
- [www.dell.com/jp](http://www.dell.com/jp) (Japan only)
- [www.euro.dell.com](http://www.euro.dell.com) (Europe only)
- [www.dell.com/la](http://www.dell.com/la) (Latin American and Caribbean countries)
- [www.dell.ca](http://www.dell.ca) (Canada only)

Dell Support website provides access to troubleshooting wizards, user manuals, technical help blogs, download Dell driver and software updates, and so on. You can access Dell Support through the following websites and e-mail addresses:

### Dell Support Websites

- [support.dell.com](http://support.dell.com)
- [support.jp.dell.com](http://support.jp.dell.com) (Japan only)
- [support.euro.dell.com](http://support.euro.dell.com) (Europe only)
- [supportapj.dell.com](http://supportapj.dell.com) (Asia Pacific only)

### Dell Support E-mail Addresses

- [mobile\\_support@us.dell.com](mailto:mobile_support@us.dell.com)
- [support@us.dell.com](mailto:support@us.dell.com)
- [la-techsupport@dell.com](mailto:la-techsupport@dell.com) (Latin America and Caribbean countries only)
- [apsupport@dell.com](mailto:apsupport@dell.com) (Asian/Pacific countries only)

### Dell Marketing and Sales E-mail Addresses

- [apmarketing@dell.com](mailto:apmarketing@dell.com) (Asian/Pacific countries only)
- [sales\\_canada@dell.com](mailto:sales_canada@dell.com) (Canada only)

## Contacting Dell

Customers in the United States, call 800-WWW-DELL (800-999-3355).



**NOTE:** If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Go to **www.dell.com/ContactDell**.
2. Select your country or region.
3. Select the appropriate service or support link based on your requirement.
4. Choose the method of contacting Dell that is convenient for you.

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## AC Adapter

AC adapters are used to supply power to portable computers and certain desktop computers. AC adapters convert AC current to DC current for supplying to computers. The Dell AC-adapter kit consists of the AC adapter and the power cable. The AC-adapter power rating (65 W, 90 W, and so on) depends on the computer it is designed for, and the power cable varies based on the country where the AC adapter is shipped.

 **CAUTION:** It is recommended to use only the AC adapter that shipped with your computer or a Dell-approved replacement AC adapter, to avoid damaging your computer.



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# About Storage Devices

Storage devices allow you to store data for later use. Storage devices can be internal or external. Most of the storage devices store data till you manually delete the data. Examples of storage devices are hard drives, optical drives, USB memory keys, and so on.

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## Related Information

[Internal Storage Devices](#)

[Removable Storage Devices](#)

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# Laptop Battery

The following table compares the most commonly used batteries.

3-cell battery	6-cell battery	9-cell battery
Low cost	Moderate cost	High cost
Small in size	Large in size	Large in size
Low capacity	Moderate capacity	High capacity
Low weight	Moderate weight	Heavy

 **NOTE:** When used under the same conditions, a low capacity battery will wear out faster than a moderate or high capacity battery because it has to be charged more often.

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## Related Information

- [Improving the Battery Performance](#)
- [Charging the Battery](#)
- [Dell Knowledge Base Article: 405686](#)





# Internal Storage Devices

Storage devices that are installed inside your computer are called internal storage devices. Generally, you cannot remove such devices when the computer is powered on. The data stored on internal storage devices is generally stored till you manually delete it. Internal storage devices include hard drives (HDD) and solid-state drives (SSD).

## Hard Drives

An HDD contains magnetically coated platters that rotate on a motor-driven spindle, within a protective enclosure. Data is magnetically read from and written to the platter by read/write heads that are present above the platters. The hard disk drive is the data center of your computer.

A typical HDD design consists of a spindle that holds flat circular disks called platters, onto which the data is recorded. The platters are made from a non-magnetic material, usually aluminum alloy or glass, and are coated with a shallow layer of magnetic material, with an outer layer of carbon for protection.

## Solid-State Drives

An SSD is a data storage device that uses solid-state (flash) memory to store data. SSDs contain no moving parts as data is stored in electrical circuits. Compared to HDDs, SSDs are typically less susceptible to physical shock, are quieter, and have lower access time and latency. SSDs use the same interface to connect to the computer as HDDs, making them compatible with most existing computers.

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### Related Information

[Removable Storage](#)

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## Coin-Cell Battery

Coin-cell battery resides on the system board and provides power to the Complementary Metal Oxide Semiconductor (CMOS) chip while the computer is turned off. The CMOS chip contains the time, date, and other configuration settings and the coin-cell battery helps preserve these settings while the computer is switched off.

The coin-cell battery can last for several years. The factors that affect coin-cell battery life are type of system board, temperature, the time for which the computer is powered off, and so on.



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### Related Information

[System Board](#)  
[Memory](#)

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## Removable Storage Devices

Removable storage devices that you can remove from your computer without turning the computer off are called removable storage devices. Commonly used removal storage devices include:

- Optical discs
- Memory cards
- Floppy disks/Zip disks
- Magnetic tapes

### Optical Discs




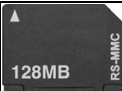
Some examples of optical discs are:

- **Blu-ray Disc** — Blu-ray Disc (BD) was designed to supersede the DVD format. The standard physical medium is a 12 cm plastic optical disc, the same size as DVDs and CDs. A Blu-ray Discs stores 25 GB (single layer) or 50 GB (dual layer).
- **DVD** — A Digital Versatile Disc (DVD) stores data up to 4.7 GB (single layer) or 8.5 GB (dual layer).
- **CD** — A Compact Disc (CD) stores data up to 800 MB.

### Memory Cards

Memory cards, also referred to as flash cards, use flash memory to store digital information. They are re-writeable, fast, and retain data even when power supply is cut off. Memory cards are commonly used in devices such as digital cameras, mobile phones, media players, gaming consoles, and so on.

Some common types of memory cards are:

Secure Digital (SD)/Secure Digital High Capacity (SDHC)	
Memory Stick (MS)/Memory Stick Pro (MS Pro)	
Extreme Digital (xD)	
Multimedia Card (MMC)	

### Related Information

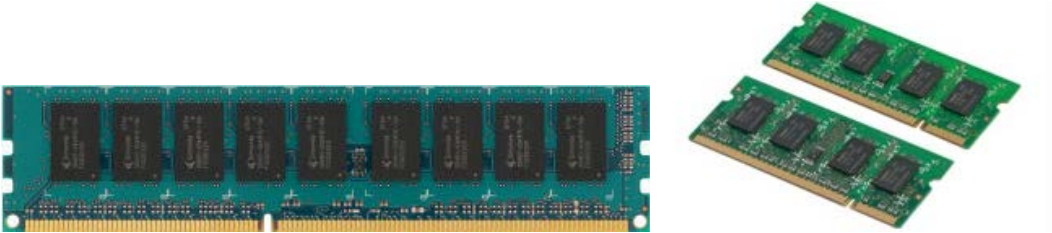


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# Memory Module

Memory modules are Printed Circuit Boards (PCB) with Random Access Memory (RAM) chips soldered on them. Memory modules provide RAM needed by your computer. Based on the type of computer they are used in, memory modules are categorized as:

- Dual In-line Memory Module (DIMM) — Used in desktop computers.
- Small Outline Dual In-line Memory Module (SODIMM) — Smaller in size than DIMMs. Generally used in notebook computers, however, may also be used in some compact desktops and all-in-one computers.



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## Related Information

[Internal Storage](#)

[Removable Storage](#)

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# About Touchpad

A touchpad provides the functionality of a mouse to move the cursor, drag or move selected items, and right-click or left-click by tapping the surface. A touchpad has a touch-sensitive surface that senses the motion and position of your finger(s) to a relative position on the computer screen. Touchpads are available on laptop computers and some high-end keyboards.

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***Related Information***

[Touchpad Gestures](#)

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# System Board


A system board is a printed circuit board that forms the central part of computers. All other devices connect to the system board to be able to interact with each other. The system board holds various controllers and connectors that help in exchange of data among various components of the computer.

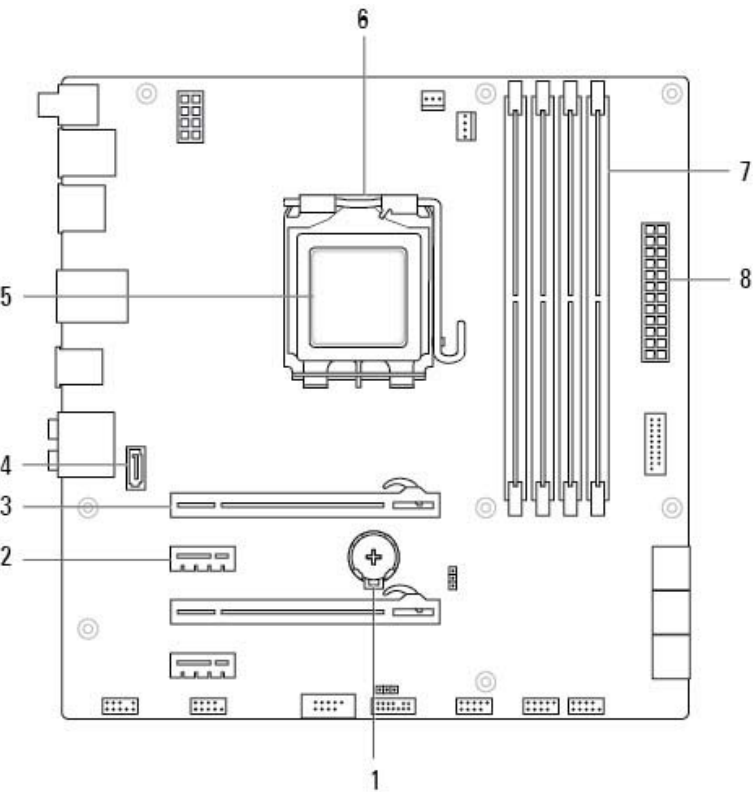
Some important components of a system board are:

- Processor socket(s) — Provides slot(s) to install processor(s).
- Memory-module connector(s) — Provides slot(s) to install memory module(s).
- Expansion card slot(s) — Provides slot(s) to install expansion card(s).
- Chipset — Provides an interface between the processor's front-side bus, main memory, and peripheral buses.
- Flash memory — Contains the system memory or BIOS program.
- Power connectors — Provide power to the system board from the computer power supply.

Additionally, a system board may have integrated graphics, sound, and network capabilities.

The figure below lists the basic components of a desktop system board.

 **NOTE:** Size, shape, and location of components may vary based on the type of system board and the computer it is designed for.





1	battery socket
2	PCI-Express x1 connector
3	PCI-Express x16 connector
4	eSATA connector
5	processor
6	processor socket
7	memory-module connector
8	power connector

## Related Information

- [Processor](#)
- [Video Cards](#)
- [Memory Modules](#)
- [Coin-Cell Battery](#)



# Touchpad Gestures

-  **NOTE:** Some of the touchpad gestures may not be supported on your computer.
-  **NOTE:** You can change the touchpad gestures settings by double-clicking the touchpad icon in the notification area of your computer desktop.

Your computer may support **Scroll**, **Zoom**, **Rotate**, **Flick**, **My Favorites**, and **Desktop** gestures.

## Scroll

Allows you to scroll through content. The scroll feature includes:

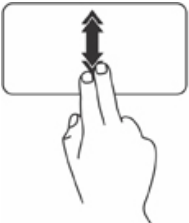
**Pan** — Allows you to move the focus on the selected object when the entire object is not visible.

Move two fingers in the desired direction to pan scroll the selected object.



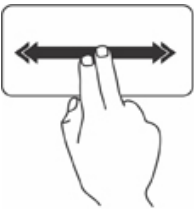
**Auto Scroll Vertical** — Allows you to scroll up or down on the active window.

Move two fingers up or down at a fast pace to activate vertical auto scrolling. Tap on the touchpad to stop auto scrolling.



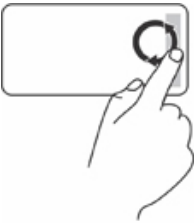
**Auto Scroll Horizontal** — Allows you to scroll left or right on the active window.

Move two fingers to your left or right at a fast pace to activate horizontal auto scrolling. Tap on the touchpad to stop auto scrolling.



**Circular Scroll** — Allows you to scroll up or down, and right or left.

To scroll up or down: Move a finger in the vertical scroll zone (extreme right of the touchpad), in a clockwise circular motion to scroll up or counterclockwise circular motion to scroll down.



To scroll right or left: Move a finger in the horizontal scroll zone (extreme bottom of the touchpad), in a clockwise circular motion to scroll right or counterclockwise circular motion to scroll left.





## Zoom

Allows you to increase or decrease the magnification of the screen content.

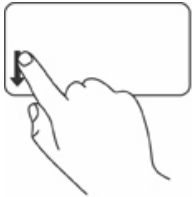
The zoom feature includes:

**One finger zoom** — Allows you to zoom in or out.

To zoom in: Move a finger up in the zoom zone (extreme left of the touchpad).

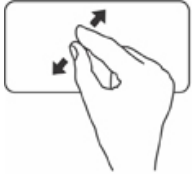


To zoom out: Move a finger down in the zoom zone (extreme left of the touchpad).

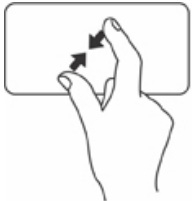


**Pinch** — Allows you to zoom in or zoom out by moving two fingers apart or bringing them closer together on the touchpad.

To zoom in: Move two fingers apart to enlarge the view of the active window.



To zoom out: Move two fingers close together to reduce the view of the active window.

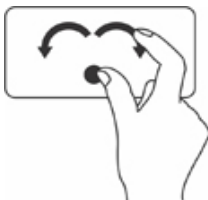


## Rotate

Allows you to rotate the active content on the screen. The rotate feature includes:

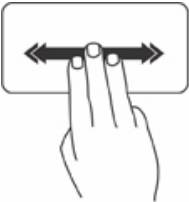
**Twist** — Allows you to rotate active content in 90° increments using two fingers where one finger is anchored and the other rotates.

Keeping the thumb in place, move the index finger in an arced direction right or left to rotate the selected item 90° clockwise or counterclockwise.



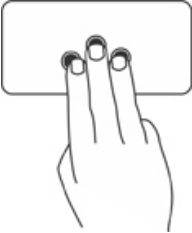
## Flick

Allows you to flip content forward or backward based on the direction of the flick.  
Move three fingers quickly in the desired direction to flip content in the active window.



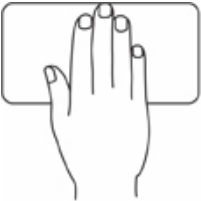
## My Favorites

Allows you to open your favorite applications.  
Tap three fingers on the touchpad. The applications that are configured in the touchpad configuration tool launch.



## Desktop

Allows you to minimize all open windows so that the desktop is visible.  
Place your hand on the touchpad in any orientation and briefly hold in place.



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### Related Information

[Touchpad](#)

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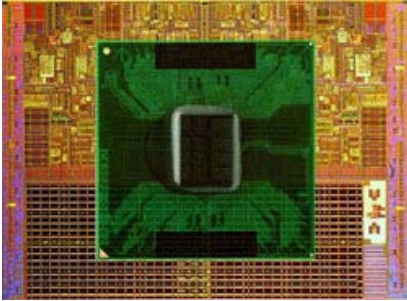
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# Processor

Processor is the part of the computer or another electronic device that processes data and instructions to generate a desired output.



Processors are mainly classified based on:

- Number of processing cores present on the die
- Speed or frequency measured in GigaHertz (GHz) or MegaHertz (MHz)
- Onboard memory, also referred to as Cache

The performance of a processor is generally measured in number of calculations it can perform in a second. The current generation of processors have speeds of about 50,000 Million Instructions Per Second (MIPS), or more for high-end models. The current generation of processors are connected to the system board using a Land Grid Array (LGA) or Pin Grid Array (PGA) connector. Some processors may be integrated on the system board, however, these are mostly for handheld devices.

Some of the current processor families are:

- Intel Pentium
- Intel Celeron
- Intel Core series
- Intel i series
- Intel Xeon
- AMD Athlon
- AMD Phenom
- AMD Sempron

Processors are specifically designed for mobile devices, laptop computers, desktop computers, servers, and so on. A processor designed for mobile devices consumes less power compared to the ones designed for desktop computers or servers.

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## ***Related Information***

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[Heat Sink](#)

[Thermal Grease](#)

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# Computer Fan

A computer fan cools the internal components of a computer by expelling hot air from the computer. Computer fans are commonly used to cool components that have high power consumption and thus generate a high amount of heat. Keeping the components cool helps in protecting them from overheating, malfunctioning, and damage.

Fans are used to cool:

- Computer chassis
- Processor
- Graphics card
- Chipset
- Hard drive, and so on.

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## Related Information

[Processor](#)

[Heat Sink](#)

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# Display

A display is an output device for visual presentation of computer information.

Commonly available types of display are:

- Touchscreen
- 3D
- Wireless

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***Related Information***

- [Wireless Display](#)
- [Touch Screen Display](#)
- [3D Display](#)
- [Setting Up 3D Display](#)
- [NVIDIA 3DTV Play](#)



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# Heat Sink

Heat sinks are used to dissipate heat generated by the processor or some high-end graphics cards. Heat sinks generally have a fan mounted above them to increase airflow and are made up of fins or blades instead of a single block of metal. This helps increase the surface area for maximum heat dissipation. A layer of thermal grease is applied between the processor/graphics card and the heat sink for easy exchange of heat.



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## Related Information

[Thermal Grease](#)  
[Processor](#)

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# 3D Display

A 3D display is a video output device that can display a 3-dimensional image. 3D displays work by presenting separate offset 2D images to the left and right eye. These 2D images are then combined and interpreted by the brain as having depth, thus creating 3D effects.

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***Related Information***

- [Display](#)
- [Wireless Display](#)
- [Touch Screen Display](#)
- [Setting Up 3D Display](#)
- [NVIDIA 3DTV Play](#)

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# Thermal Grease

Thermal grease, also called thermal gel, thermal compound, and so on, is used to create a heat inductive layer between a processor and heat sink. Applying thermal grease between the processor and heat sink increases the heat transfer from the processor to the heat sink, as the thermal grease has better conductivity than air.

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## *Related Information*

[Heat Sink](#)  
[Processors](#)

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# Wireless Display

The wireless display feature allows you to share your computer display with a TV without the use of cables. You must connect a wireless display adapter to your TV before setting up wireless display.

Minimum requirements for setting up wireless display are:

Processor	Intel Core i3-3xx to i7-66xx
Video Controller	Intel HD Graphics
WLAN card	Intel Centrino 6100/6200/6300 or Intel Centrino Advanced-N + WiMAX 6250
Operating System	Windows 7 Home Premium, Professional, or Ultimate
Driver	Latest wireless-card drivers and Intel Wireless Display Connection Manager available at <b>support.dell.com</b> .

 **NOTE:** Wireless display may not be supported on all computers.

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## Related Information

- [Display](#)
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# Video Cards

Video card is a component that sends video signals or information to a display device such as a monitor or projector.

Video cards can be of two types:

- **Integrated video** — Often referred to as an on-board video card, it is a chip that is part of the system board. Integrated video cards do not have dedicated memory, and share the system memory and processor to output video. Integrated video cards are suitable for users who do not require high video performance.
- **Discrete video** — Discrete video cards are installed separately on the system board. Discrete video cards have dedicated memory on the cards and generally provide higher performance than integrated video cards. These video cards are generally installed in a PCI-E x16 expansion slots on the system board. Legacy connectors for video cards include PCI and AGP. These cards are best suited for graphic-intensive applications, playing high-definition video games, and so on.

 **NOTE:** When a discrete video card is installed on a computer that also has an integrated video card, the integrated video card is disabled. Use the system setup program to manually enable the integrated video card.

- **Accelerated Processing Unit (APU)** — APUs are formed by etching a graphics processing unit (GPU), or any other processing system on the same chip as the CPU. Hence, APUs provide higher data transfer rates while reducing the power consumption which improves the performance of the computer when compared to Integrated video.

---

## Related Information

[System Board](#)

---



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# Touchscreen Display

Touchscreen is a display device that lets you interact with the objects on the screen by touching the display instead of using a mouse, touchpad, or a keyboard. You can operate a touchscreen display with a finger, hand, or another passive object, such as a stylus. Touchscreen displays are commonly used in phones, tablets, computers, and so on. Commonly used touchscreen technologies are capacitive touch and resistive touch.

---

## *Related Information*

- [Display](#)
- [Wireless Display](#)
- [3D Display](#)
- [Setting Up 3D Display](#)
- [Using Touch Screen Display](#)
- [Touch Screen Gestures](#)

---

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## TV Tuners

You can use TV tuners to watch television on your computer. TV tuners are available for both desktop and laptop computers and are available in various connectivity options such as:

- Internal
  - PCI-E
  - PCI
- External
  - USB
  - PC Card
  - ExpressCard



TV tuners are mostly standalone, however, some video cards also have built in TV tuners. Most TV-tuner cards are bundled with software that lets you record the television content on your computer.

---


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# Speakers

Speakers are used to listen to sound from the computer. Speakers can be internal or external. On desktop computers, internal speakers are generally used only for producing error or failure beeps. External speakers, also called multimedia speakers, produce sound for movies, songs, multimedia content, and so on. Speakers are generally identified as 2, 2.1, 5.1, 7.1, and so on. The digit before the decimal point indicates the number of channels and the digit after the decimal point (1) indicates the subwoofer. Speakers are commonly connected to the computer using a 3.5 mm connector or using USB connector.



 **NOTE:** For 5.1 or 7.1 channel speakers to produce 5.1 or 7.1 channel sound, your computer sound card must support 5.1 or 7.1 channel audio.

---

**Related Information**

- [Setting Up 5.1 Audio](#)
- [Setting Up 7.1 Audio](#)




# Keyboard



Computer Keyboards are arrangements of square and rectangular labeled keys, each with one or more assigned functions. Press these keys to either type letters and numbers or perform the tasks assigned to the keys. Different manufacturers arrange the keys on their keyboards slightly differently, but all keyboards feature essentially the same keys.

Most keyboards have a number pad, a standard arrangement of numerical and mathematical keys, in addition to the normal numbered keys. Laptop computers have a physical keyboards built into their chassis, but most exclude the number pad to save space. Some small-sized laptops and netbook computers do not have a physical keyboard, and provide an on-screen keyboard.

Your keyboard provides different sets of keys to perform different sets of functions:

- Alphanumeric keys for typing letters, numbers, punctuation, and symbols
- Control keys for performing certain actions: <Ctrl>, <Alt>, <Esc>, and the Windows key 
- Function keys, labeled <F1>, <F2>, <F3>, and so on, for performing specific tasks
- Navigation keys for moving the cursor around in documents or windows: <Home>, <End>, <Page Up>, <Page Down>, <Delete>, <Insert>, and arrow keys
- Numeric keypad of numbers grouped together like those on an adding machine (the numeric keypad on most laptop computers is integrated into the alphabetic keys)

---

## **Related Information**

[Customizing Your Keyboard](#)

[Keyboard Connection Types](#)

[Backlit Keyboard](#)

[Changing the Input Language of Your Keyboard](#)

[Using the Numeric Keypad on a Laptop Computer](#)

[General Keyboard Shortcuts](#)

[Keyboard Not Working, Not Detected, or Working Intermittently](#)



[Back to Contents Page](#)

# Webcam

A webcam is a device that allows you to capture real-time video or images, and can also be used for video conferencing.

The webcam type may vary based on the selections you made while purchasing your computer. You may have a built-in webcam or you may need to buy an external webcam. External webcams connect to your computer using the USB connector. A camera quality is generally defined by the number of pixels it can capture.

---

**Related Information**

- [Setting Up Webcam](#)
- [Enabling a Disabled Webcam](#)

---

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# Backlit Keyboard




Backlit keyboards provide visibility in dark environments by illuminating the symbols on the keys using LEDs present below the keyboard. You can turn on the backlight manually or configure the backlight to turn on automatically when your computer is placed in a dark environment.

On a Dell laptop computer, there are generally three lighting states available:

- Full keyboard/touchpad brightness
- Half keyboard/touchpad brightness
- No lighting

Pressing the <Fn> and the right-arrow key toggles between the three lighting states.

 **NOTE:** Backlit keyboard may not be available on all computers. See the specifications of your computer for more details.

---

## Related Information

- [Keyboard](#)
- [Customizing Your Keyboard](#)
- [Keyboard Connection Types](#)
- [Changing the Input Language of Your Keyboard](#)
- [Using the Numeric Keypad on a Laptop Computer](#)
- [General Keyboard Shortcuts](#)
- [Keyboard Not Working, Not Detected, or Working Intermittently](#)





# ExpressCards

ExpressCards allow you to connect peripheral devices such as memory cards, wired and wireless communications, printers, scanners, microphone, and so on, to your laptop computer. ExpressCards replace PC cards.

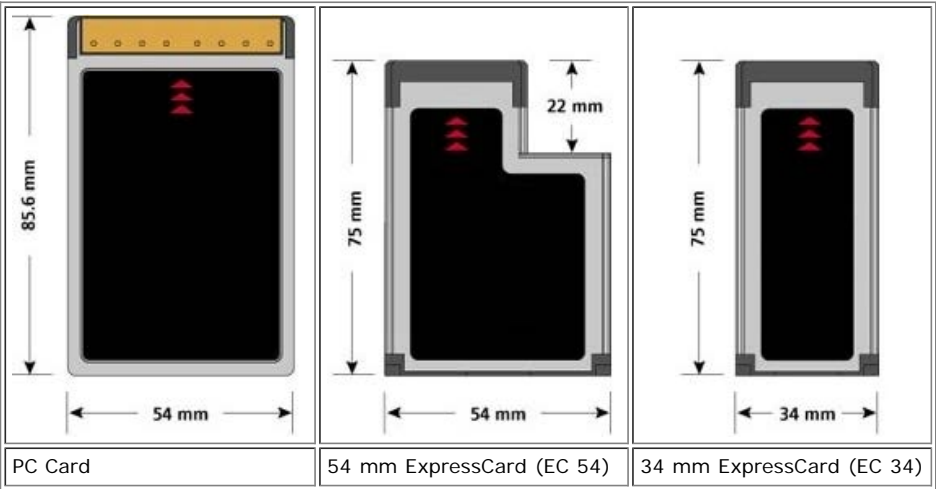
ExpressCards are installed on externally accessible ExpressCard slots. ExpressCard slot on laptops and desktops is normally installed with a blank, when no ExpressCard is installed, to protect the slot from dust particles. You must remove the blank to install an ExpressCard.



1	ExpressCard or blank	2	ExpressCard release latch
---	----------------------	---	---------------------------

Types of ExpressCards	Features
ExpressCard/34	<ul style="list-style-type: none"><li>Used in smaller computers and supports limited peripheral devices</li><li>Can be used on both EC 34 and EC 54 slots</li></ul>
ExpressCard/54	<ul style="list-style-type: none"><li>Supports a wide range of peripheral devices</li><li>Consumes more power than the 34 mm cards</li><li>Can be used only on computers that support EC 54 slots</li></ul>

The following figure shows the size-comparison of PC-cards and ExpressCards:



## Related Information

- [Internal Storage](#)
- [Removable Storage](#)



# Keyboard Connection Types

You can connect a keyboard to your computer using a wired or a wireless connection.

Wired: The keyboard is connected to the computer using a cable and does not require additional power source, such as batteries. The connection can be using any of the following:

- USB — Used in all current generation computer.
- PS/2 port — Used on older computers.

Wireless: Keyboard is connected to the computer using wireless signals. This connection method reduces cable clutter and gives you the flexibility to use the keyboard from a more comfortable position within a few meters from the computer. Such keyboards require batteries to operate and some wireless keyboards have rechargeable batteries. The wireless connection can be any of the following:

- Radio Frequency (RF) — An RF receiver is connected to the USB port on the computer.
- Bluetooth — The keyboard connects to the computer using the Bluetooth adapter already installed in your computer or using a Bluetooth adapter connected to an USB port of your computer.

---

## Related Information

- [Keyboard](#)
  - [Customizing Your Keyboard](#)
  - [Backlit Keyboard](#)
  - [Changing the Input Language of Your Keyboard](#)
  - [Using the Numeric Keypad on a Laptop Computer](#)
  - [General Keyboard Shortcuts](#)
- 



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## Communication Devices

An electronic device that can send and receive data on the network is called a communication device. Communication devices are used on both ends of a connection. Signals may travel from one device to another in either analog or digital form. Most communication devices have the ability to convert digital signals to analog signals or analog signals to digital signals, so that the signals can be transmitted from one device to another.

Some of the commonly used communication devices are:

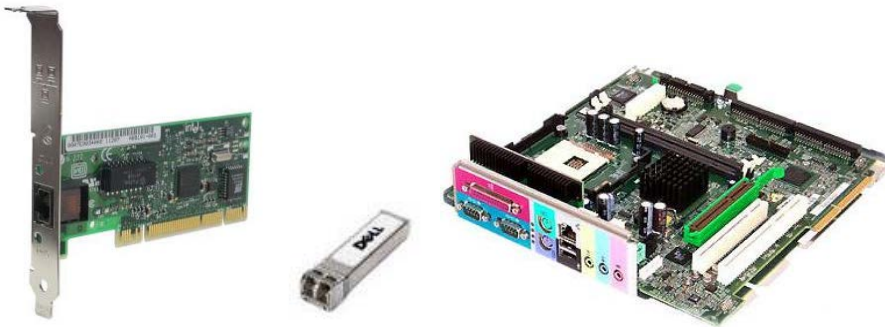
**Modem** — Stands for Modulator and Demodulator. Modems can be analog (dial-up) or digital.

- **Dial-up modem** — Electronic devices that convert analog phone signals into digital signals that the computer can process, and digital computer signals into analog signals that can be transmitted over the telephone lines. Dial-up modems can be internal or external.

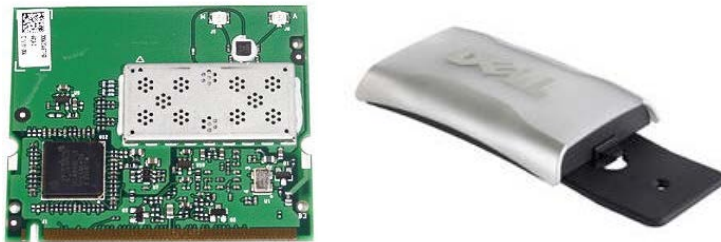


- **Digital modem** — Used to send and receive data to and from a digital telephone line, like Digital Subscriber Line (DSL) or Integrated Services Digital Network (ISDN).

**Network Interface Controller (NIC)** — Also referred to as network adapters or Local Area Network (LAN) adapters. They usually connect to networks using an Ethernet cable. NICs can be internal (expansion cards or integrated to the system board) or external.



**Wireless Local Area Network (WLAN) controllers** — Allow communication over short distances using radio signals instead of traditional network cabling. WLAN controllers can be internal (expansion cards or integrated to the system board) or external.



**Wireless Wide Area Network (WWAN) controllers** — Allow wireless connectivity through cellular tower technology. A SIM card may be required for WWAN connectivity.



Bluetooth adapters — Allow Bluetooth-enabled devices to communicate with each other over a short distance. Bluetooth adapters can be internal (expansion cards or integrated to the system board) or external.



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### ***Related Information***

[Setting up Your Network](#)

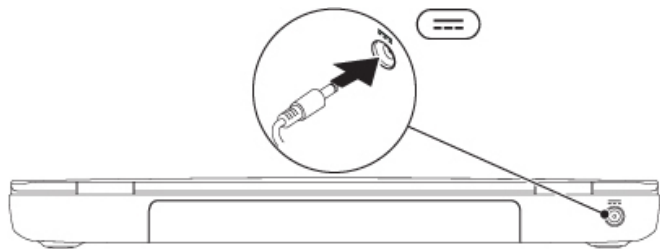
[Back to Contents Page](#)



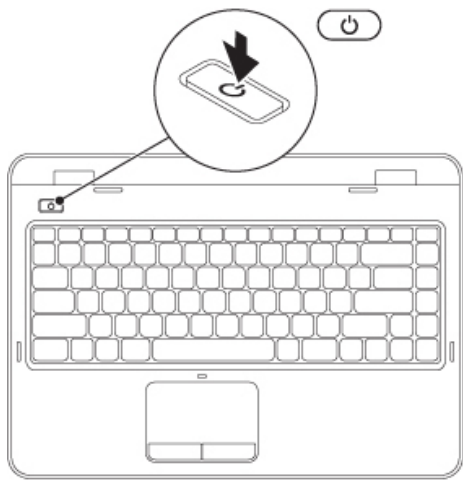
# Setting Up Your Laptop


 **WARNING:** The AC adapter works with electrical outlets worldwide. However, power connectors and power strips vary among countries. Using an incompatible cable or improperly connecting the cable to a power strip or electrical outlet may cause fire or equipment damage.

- 1. Connect the AC adapter to the computer and then plug it into a wall outlet or surge protector.



- 2. Press the power button to turn on your laptop.



 **NOTE:** The location of the power button and AC adapter connector may vary depending on the your computer model.

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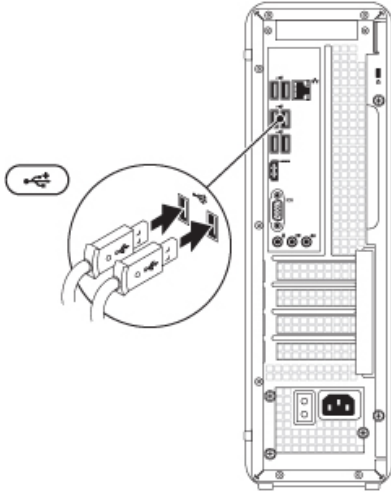
## Related Information


- [Setting Up Your Desktop](#)
- [Setting Up Your Display](#)
- [AC Adapter](#)
- [Battery](#)
- [Keyboard](#)



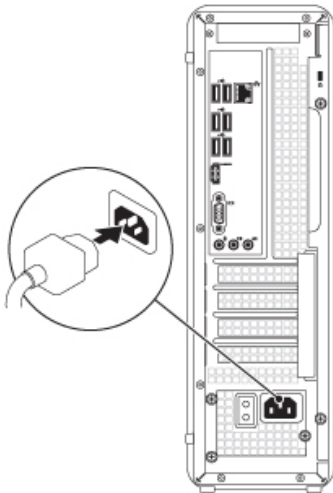
## Setting Up Your Desktop

1. Connect the display to the appropriate display connector on your computer (see [Setting Up Your Display](#)).
2. Connect the USB keyboard and mouse to the USB connectors.

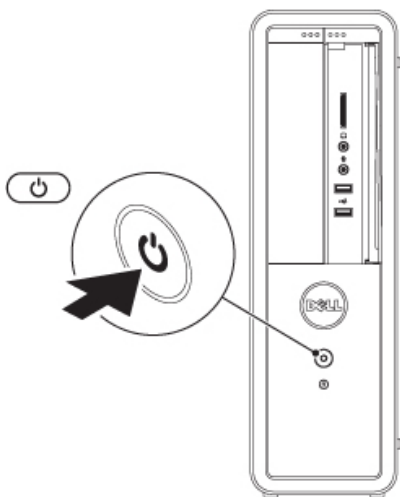


 **NOTE:** Depending on your computer model, USB ports may also be present on the front panel of your computer.

3. Connect the power cable.



4. Press the power button to turn on your computer.



---

#### ***Related Information***

[Setting Up Your Laptop](#)  
[Setting Up Your Display](#)  
[Setting Up 3D Display](#)  
[Setting Up Wireless Display](#)

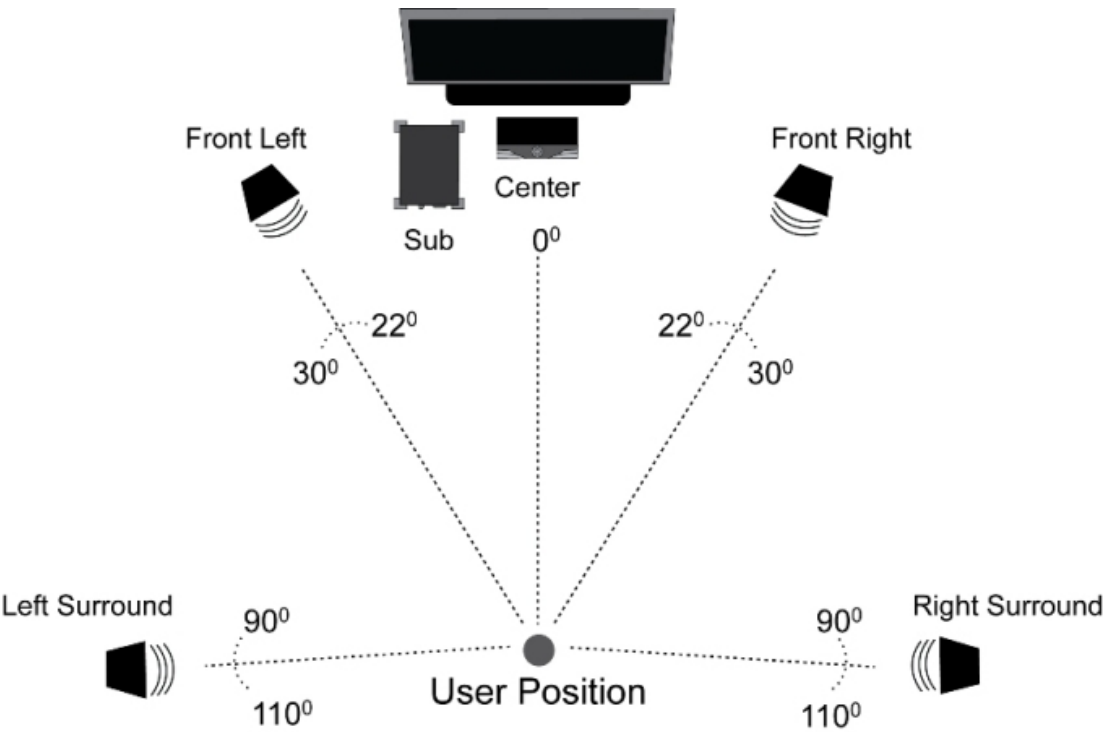
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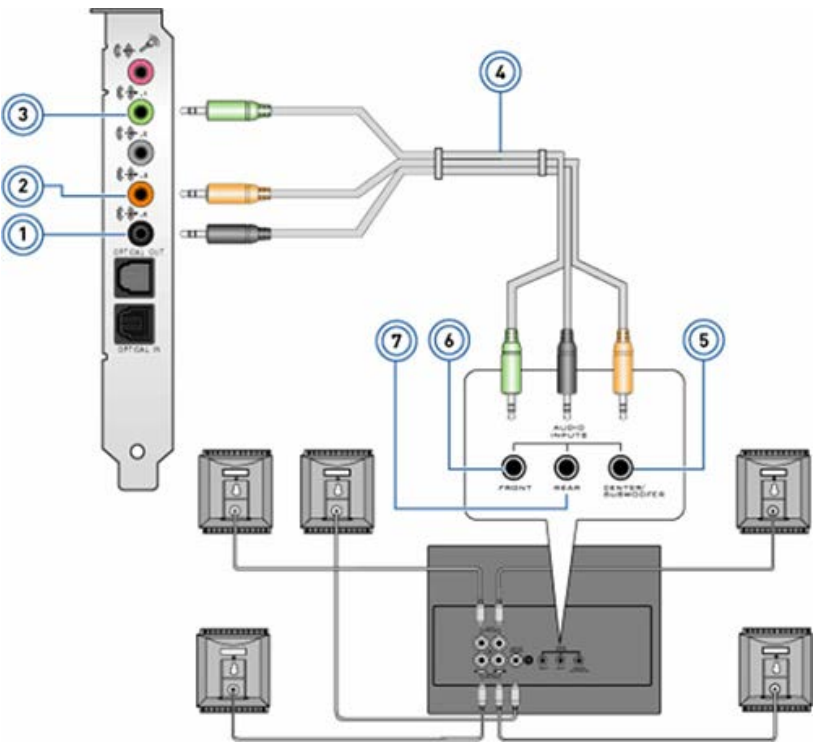


# Setting Up 5.1 Audio

5.1 audio is most effective when the speakers are placed as shown in the following figure:



See the following figure to connect 5.1 speakers to your computer.




1	Rear audio connector on the computer	5	Center/LFE surround out on the speaker
2	Center/LFE surround out on the computer	6	Front audio connector on the speaker
3	Front audio connector on the computer	7	Rear audio connector on the speaker
4	5.1 channel audio cable		



To set up your speakers:

Windows 7 and Windows Vista

1. Click **Start**  → **Control Panel** → **Hardware and Sound** → **Sound**.
2. Select **Speakers** and click **Configure**.  
The **Speaker Setup** window appears.
3. Select a speaker configuration under **Audio channels:** and click **Test**.  
You should hear a tone from every speaker.
4. Click **Next**.
5. Follow the instructions on the screen.

If you experience problems with your computer sound, see the knowledge base article 266424 at [support.dell.com](http://support.dell.com).

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#### ***Related Information***

[Audio Connectors](#)  
[Setting Up 7.1 Audio](#)

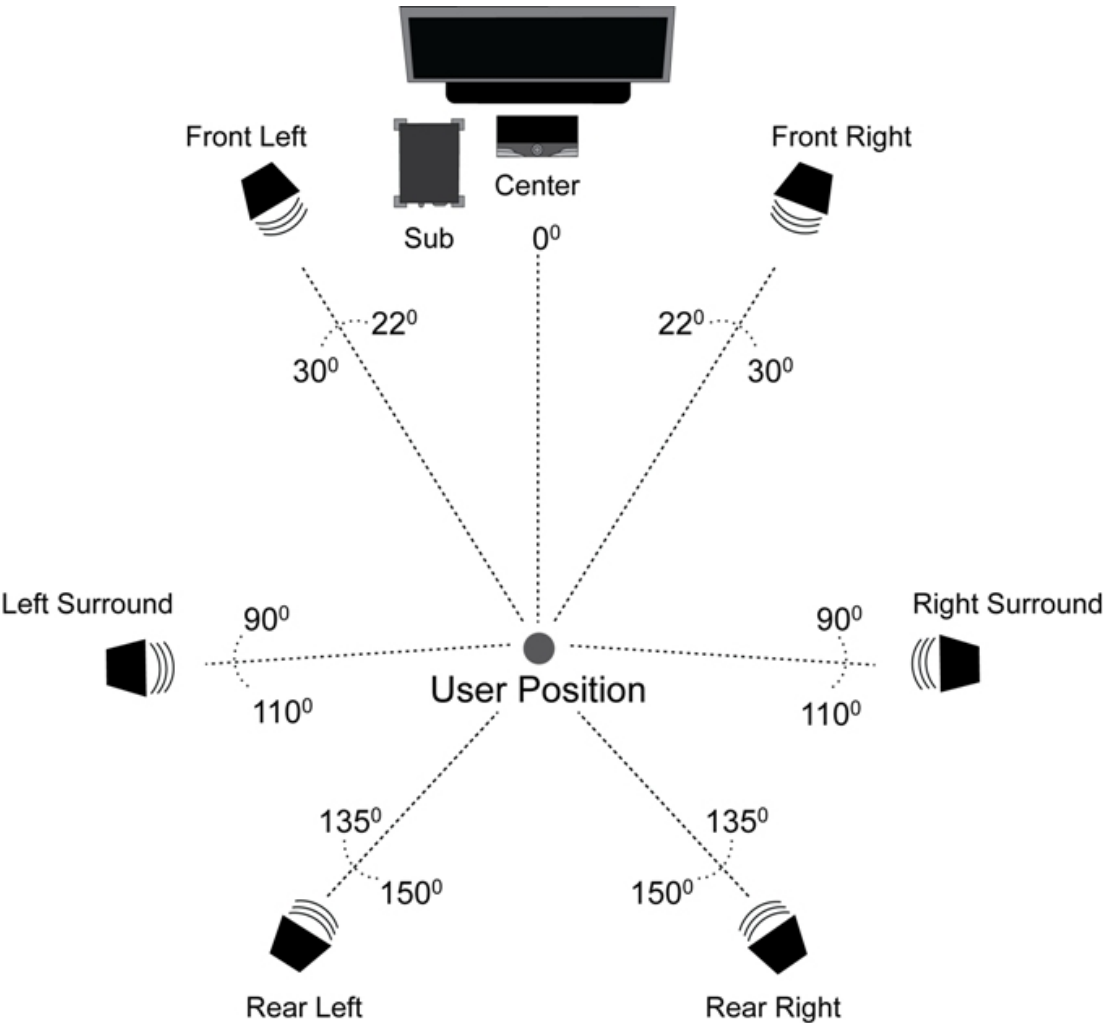
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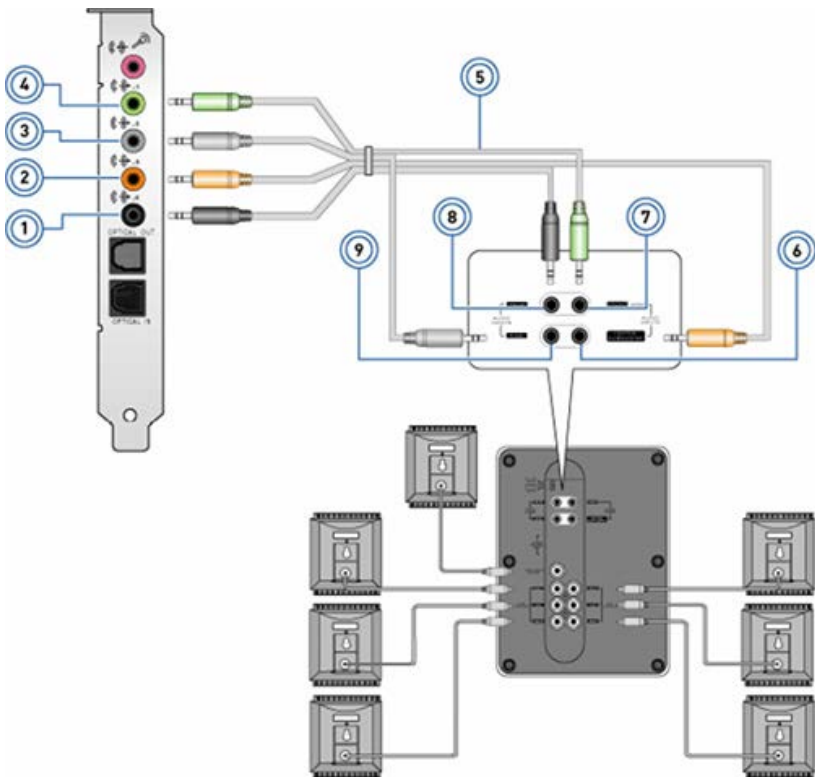


# Setting Up 7.1 Audio

7.1 audio is most effective when the speakers are placed as shown in the following figure:



See the following figure to connect 7.1 speakers to your computer:



1	Rear audio connector on the computer	6	Center/LFE surround out on the speaker
2	Center/LFE surround out on the computer	7	Front audio connector on the speaker
3	Side audio connector on the computer	8	Rear audio connector on the speaker
4	Front audio connector on the computer	9	Side audio connector on the speaker
5	7.1 channel audio cable		

To set up your speakers:

Windows 7 and Windows Vista

1. Click **Start** → **Control Panel** → **Hardware and Sound** → **Sound**.
2. Select **Speakers** and then click **Configure**.  
The **Speaker Setup** window appears.
3. Select a speaker configuration under **Audio channels:** and then click **Test**.  
You should hear a tone from every speaker.
4. Click **Next**.
5. Follow the instructions on the screen.

If you experience problems with your computer sound, see the knowledge base article 266424 at [support.dell.com](http://support.dell.com).

#### Related Information






[Audio Connectors](#)  
[Setting Up 5.1 Audio](#)




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# Setting Up Your Display














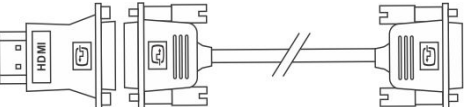

1. Check the type of connectors available on your display and verify the cables shipped with your display. See the following table to identify and select the appropriate display connector to use.

HDMI	HDMI	
VGA		
DVI		

-  **NOTE:** If you purchased the optional discrete graphics card, connect the display using the connector on the discrete graphics card.
-  **NOTE:** The integrated VGA and HDMI connectors may be disabled and capped if your computer has a discrete graphics card.
-  **NOTE:** When connecting to a single display, connect the display to **ONLY ONE** of the connectors on your computer.

2. Use the appropriate cable based on the connectors available on your computer and display. You may need to use an appropriate adapter (DVI-to-VGA adapter or HDMI-to-DVI adapter) to connect your display to the discrete graphics card if the connector on your display and the discrete graphics card is different.

See the following table to identify the connectors on your computer and display.

Connection Type	Computer	Cable	Display
VGA-to-VGA (VGA cable)			
DVI-to-DVI (DVI cable)			
DVI-to-VGA (DVI-to-VGA adapter + VGA cable)			
HDMI-to-HDMI (HDMI cable)			
HDMI-to-DVI (HDMI-to-DVI adapter + DVI cable)			

You can purchase the DVI-to-VGA adapter, HDMI-to-DVI adapter, and additional HDMI or DVI cables at **dell.com**.

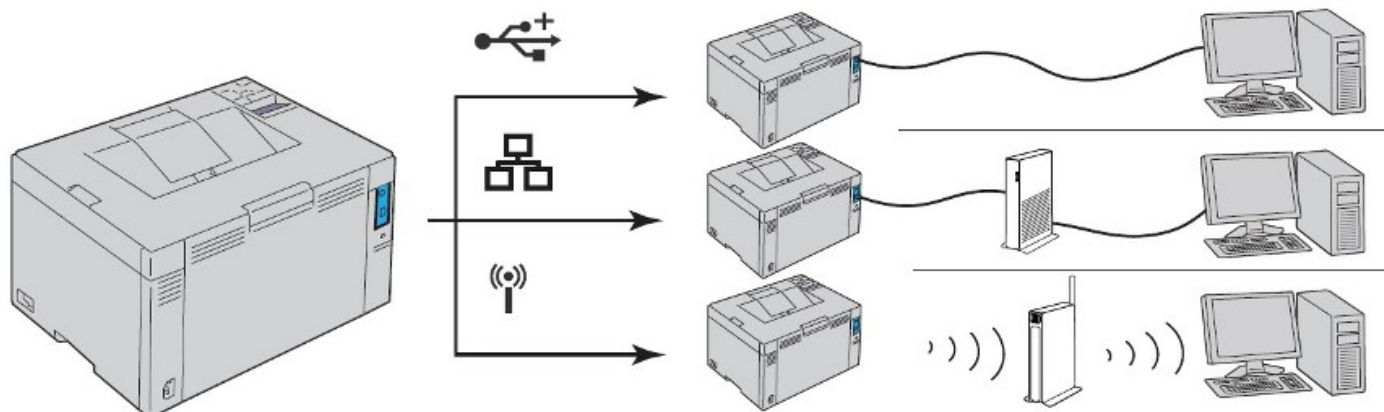
## Related Information

- [Display](#)
- [Setting Up 3D Display](#)
- [Setting Up Wireless Display](#)
- [Connecting a Display to the Digital Visual Interface](#)
- [Display Screen is Difficult to Read](#)
- [No Display on the Screen or Screen is Blank](#)






## Setting Up Your Printer

You can connect one or more printers to your computer and also add one or more computers to your printer.




### Adding a Printer

Windows 7


1. In Windows 7, click **Start**  → **Devices and Printers**.  
In Windows Vista, click **Start**  → **Control Panel** → **Hardware and Sound** → **Printers**  
In Windows XP, click Click **Start**  → **Control Panel** → **Printers and Other Hardware** → **Printers and Faxes**
2. Click **Add a Printer**.  
The **Add Printer Wizard** appears.
3. Follow the instructions in the **Add Printer Wizard**.



## Setting Up 3D Display


 **NOTE:** Your TV or computer may not support 3D. To know if your computer supports 3D, see the documentation that shipped with your computer. To know if your TV supports 3D features available on your computer, see **System Requirements** at [www.nvidia.com/3dtv](http://www.nvidia.com/3dtv).

1. Connect your computer to the 3D TV using a HDMI cable.


 **NOTE:** The HDMI cable transmits both audio and video signals.


2. Set up the HDMI 1.4 3D TV:
  - a. Browse to the TV's 3D settings menu.
  - b. Set the 3D mode to **Automatic**.
  - c. Set the eye order for the glasses to **default** or **normal**.

 **NOTE:** Do not change the eye order settings when using NVIDIA 3DTV Play as the application controls the timing of the glasses.

 **NOTE:** If you are unable to view the entire Windows desktop on your TV, use the 3D TV's settings to reduce the display resolution. For more information about configuring the 3D settings, see the documentation that shipped with your TV.

3. Set your TV as the primary display:
  - a. Right-click the desktop and select **NVIDIA Control Panel**.
  - b. In the **NVIDIA Control Panel** window, click **Display** to expand the selection (if not already expanded) and then click **Set up multiple display**.
  - c. In the **Verify the display configuration** section, right-click the 3D TV and select **Make this the Windows primary display**.
4. Set up the NVIDIA 3DTV Play application:
  - a. In the **NVIDIA Control Panel** window, click **Stereoscopic 3D** to expand the selection, and then click **Set up stereoscopic 3D**.
  - b. Select the **Enable stereoscopic 3D** check box. The 3DTV Play setup wizard appears.
  - c. Ensure that the 3DTV Play logo appears in the control panel.
5. Change the desktop resolution to match the resolution of the 3D content type:
  - a. In the **NVIDIA Control Panel** window, click **Display** to expand the selection, and then click **Change resolution**.
  - b. For 3D gaming, set the resolution to **720p, 1280x720** and refresh rate to **60/59 Hz** in HD 3D mode.
  - c. For Blu-ray 3D playback, set the resolution to **1080p, 1920x1080** and refresh rate to **24/23 Hz** in HD 3D mode.

 **NOTE:** For TVs using PAL system with refresh rates of 50 Hz or 100 Hz or NTSC system with refresh rates of 60 Hz or 120 Hz, set the resolution to **720p** and refresh rate to **60/59 Hz**.

 **NOTE:** The performance of games may reduce in HD 3D mode even if 3DTV Play is disabled. To maximize performance, select HD or SD mode when 3DTV Play is disabled.

6. Check the HDMI audio on the TV by playing a video, game, or music and adjusting the volume on the TV.

---

### Related Information

[Setting Up Display](#)

[3D Display](#)

[NVIDIA 3DTV Play](#)

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# Setting Up Your Webcam

To set up your webcam:

Webcam integrated on laptop display or external display purchased with your computer	Drivers and software are installed when you receive your computer. Use the media shipped with the computer only to reinstall the drivers and software.
External webcam	Use the media shipped with your webcam to install the drivers and other required software to use all the features of your webcam. For more information, see the documentation that shipped with your webcam.

**Related Information**

- [Webcam](#)
- [Dell Webcam Manager](#)
- [Enabling a Disabled Webcam](#)


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# Setting Up Wireless Display


To set up wireless display:


- 1. Turn on your computer.
- 2. Ensure that wireless is enabled.
- 3. Connect the wireless display adapter to the TV.


 **NOTE:** The wireless display adapter does not ship with your computer and must be purchased separately.

- 4. Turn on the TV and the wireless display adapter.
- 5. Select the appropriate video source for your TV, such as HDMI1, HDMI2, or S-Video.
- 6. Double-click the Intel Wireless Display icon  on the desktop.  
The **Intel Wireless Display** window appears.
- 7. Select **Scan for available displays**.
- 8. Select your wireless display adapter from the **Detected wireless displays** list.
- 9. Type the security code that appears on your TV.

To enable wireless display:

- 1. Double-click the Intel Wireless Display icon  on the desktop.  
The **Intel Wireless Display** window appears.
- 2. Select **Connect to Existing Adapter**.

 **NOTE:** You can download and install the latest driver for Intel Wireless Display Connection Manager from **support.dell.com**.

 **NOTE:** For more information on wireless display, see the documentation that shipped with your wireless display adapter.

---


## Related Information


[Wireless Display](#)  
[Setting Up Display](#)





# Installing Your USB Wireless Adapter

 **NOTE:** The instructions may vary depending on the model of the wireless adapter. See the documentation that shipped with your wireless adapter for specific instructions.

1. Install the software that shipped with your USB wireless adapter:
  - a. Insert the optical disc into the optical drive of your computer.
  - b. If the installation does not begin automatically, select **Start**  **Run** and then type `x:\setup.exe` (where `x` is the drive letter of your optical drive).
  - c. Follow the instructions on the screen.
2. Shut down the computer.
3. Connect one end of the USB cable to the USB wireless adapter.
4. Connect the other end of the USB cable to a USB connector on your computer.
5. Turn on the computer.

Your computer automatically detects the wireless adapter and configures the software.

---

## Related Information


- [Network](#)
- [Setting Up Your Laptop](#)
- [Setting Up Your Desktop](#)
- [Setting Up a Wireless Internet Connection](#)



## Digital Visual Interface Connector Cables

Use the appropriate cable based on the connectors available on your computer and display. See the following table to identify the connectors on your computer and display.

Connector on the computer	Connector on the display	Cable needed
DVI -D	DVI -D	DVI -D Cable
	DVI -I	DVI -D Cable
	DVI -A	DVI -D to VGA convertor
	VGA	DVI -D to VGA converter
	HDMI	DVI -D to HDMI cable
DVI -A	DVI -D	VGA to DVI -D converter
	DVI -I	DVI -A cable
	DVI -A	DVI -A cable
	VGA	DVI to VGA cable
DVI -I	DVI -D	DVI -D cable
	DVI -I	DVI -I cable
	DVI -A	DVI -A cable
	VGA	DVI to VGA cable
	HDMI	DVI -D to HDMI cable

 **NOTE:** When connecting to a single display, connect the display to ONLY ONE of the connectors on your computer.

1. Turn off your computer.
2. Turn off the display and disconnect it from the power supply.
3. Connect one end of the display cable to the DVI port on your computer.
4. Connect the other end of the cable to the same connector on your display.
5. If necessary, connect one end of the power cable to the display's power connector.
6. Connect the other end of the power cable to the display's three-prong power strip or wall outlet.
7. Turn on your computer, and then turn on your display.

---

### Related Information

[Digital Visual Interface](#)


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[Back to Contents Page](#)

# Charging Laptop Battery

When you connect the computer with the battery installed to an electrical outlet, the computer checks the battery charge and temperature. If necessary, the AC adapter charges the battery and maintains the battery charge.

 **NOTE:** The AC adapter charges the battery even when the computer is turned off. The internal circuitry of the battery prevents the battery from overcharging.

If the battery is hot from being used in your computer or being in a hot environment, the battery may not charge when you connect the computer to an electrical outlet.

 **NOTE:** You can operate your computer while the battery is charging.

For laptop battery related FAQs, see the Article ID : 405686 at [support.dell.com](#).

---

## Related Information

[Laptop Battery](#)  
[Improving the Battery Performance](#)

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# Using Your Touchpad

You can use the touchpad to move the cursor or selected objects on the computer screen:

- To move the cursor, gently slide your finger over the touchpad.
- To left-click or select an object, tap the left touchpad button or the touchpad surface once.
- To right-click an object, tap the right touchpad button once.
- To select and move (or drag) an object, position the cursor on the object and tap twice on the touchpad without removing your finger from the touchpad after the second tap; then move the selected object by sliding your finger over the surface.
- To double-click an object, tap twice on the touchpad or press the left touchpad button twice.

---

## Related Information

[Touchpad Gestures](#)

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# Improving the Battery Performance


The operating time of a battery, which is the time the battery can hold a charge, varies depending on how you use your laptop computer.

The operating time of your battery significantly reduces if you use:

- Optical drives.
- Wireless communications devices, ExpressCards, media cards, or USB devices.
- High-brightness display settings, 3D screen savers, or other power-intensive programs like complex 3D graphics applications and games.

You can improve the battery performance by:

- Operating the computer on AC power when possible. Battery life reduces with the number of times the battery is discharged and recharged.
- Configuring the power management settings using Microsoft Windows Power Options to optimize your computer's power usage (see [Power Management](#)).
- Enabling the Sleep/Standby and Hibernation features of your computer.

 **NOTE:** The life of the battery decreases over time depending on how often the battery is used and the conditions under which it is used.

---

## Related Information

[Laptop Battery](#)  
[Charging the Battery](#)

[Back to Contents Page](#)



# General Keyboard Shortcuts

<Ctrl><Shift><Esc>	Opens the <b>Task Manager</b> window.
<Fn><F8>	Displays icons representing all currently available display options (display only, external monitor or projector only, both display and projector, and so on). Highlight the desired icon to switch the display to that option.
<Fn> and up-arrow key	Increases brightness on an integrated display.
<Fn> and down-arrow key	Decreases brightness on the integrated display only (not on an external display).
<Fn><Esc>	Activates a power management mode. You can reprogram this keyboard shortcut to activate a different power management mode using the <b>Advanced</b> tab in the <b>Power Options Properties</b> window.
<F2>	Renames the selected item.
<F3>	Searches for a file or folder.
<F4>	Displays the Address bar list in Windows Explorer.
<F5>	Refreshes the active window.
<F6>	Cycles through screen elements in a window or on the desktop.
<F10>	Activates the menu bar in the active program.
<Ctrl><c>	Copies a selected item.
<Ctrl><x>	Cuts a selected item.
<Ctrl><v>	Pastes a selected item.
<Ctrl><z>	Undoes an action.
<Ctrl><a>	Selects all items in a document or window.
<Ctrl><F4>	Closes the active window (in programs that allow you to have multiple documents open simultaneously).
<Ctrl><Alt><Tab>	Uses the arrow keys to switch between open items.
<Alt><Tab>	Switches between open items.
<Alt><Esc>	Cycles through items in the order in which they were opened.
<Delete>	Deletes a selected item and move it to the Recycle Bin.
<Shift><Delete>	Deletes the selected item without moving it to the Recycle Bin first.
<Ctrl> and right-arrow key	Moves the cursor to the beginning of the next word.
<Ctrl> and left-arrow key	Moves the cursor to the beginning of the previous word.
<Ctrl> and down-arrow key	Moves the cursor to the beginning of the next paragraph.
<Ctrl> and up-arrow key	Moves the cursor to the beginning of the previous paragraph.
<Ctrl><Shift> with an arrow key	Selects a block of text.
<Shift> with any arrow key	Selects more than one item in a window or on the desktop, or select text within a document.
Windows logo key and <m>	Minimizes all open windows.
Windows logo key and <Shift><m>	Restores all minimized windows. This key combination functions as a toggle to restore minimized windows following the use of the Windows logo key and <m> combination.
Windows logo key and <e>	Starts Windows Explorer.
Windows logo key and <r>	Opens the <b>Run</b> dialog box.
Windows logo key and <f>	Opens the <b>Search Results</b> dialog box.
Windows logo key and <Ctrl><f>	Opens the <b>Search Results-Computer</b> dialog box (if the computer is connected to a network).
Windows logo key	Opens the <b>System Properties</b> dialog box.

---

***Related Information***

[Keyboard](#)

[Customizing Your Keyboard](#)

[Backlit Keyboard](#)

[Changing the Input Language of Your Keyboard](#)

[Using the Numeric Keypad on a Laptop Computer](#)

[Keyboard Connection Types](#)

---

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# Using a Touchscreen Display

The touchscreen feature converts your computer into an interactive display.

The following are some of the basic tasks that you can perform using a touchscreen display:

- Tap or double-tap a folder or an application to open it.
- Move a finger quickly in the desired direction to flip through content in the active window like pages in a book.
- Zoom-in by moving two fingers apart to enlarge the view of the active window.
- Zoom-out by moving two fingers close together to reduce the view of the active window.
- Press and hold a finger on the touch screen to open context-sensitive menus.
- Rotate the active content by keeping a finger or thumb in place and moving the other finger in an arched direction to the right or left.

---

## Related Information

[Dell Stage](#)  
[Touchscreen Display](#)  
[Touchscreen Gestures](#)

---

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## Customizing Your Keyboard

You can customize your keyboard as follows:

- Change the delay before keyboard characters repeat
- Change the speed at which keyboard characters repeat
- Change the cursor blink rate
- Customize key sequences for input languages

To customize your keyboard:

1. Click **Start**  → **Control Panel** → **Keyboard**.
2. Adjust the keyboard settings you want to change and click **OK**.

---

### ***Related Information***

[Keyboard](#)

[Backlit Keyboard](#)

[Keyboard Connection Types](#)

[Changing the Input Language of Your Keyboard](#)

[Using the Numeric Keypad on a Laptop Computer](#)


[General Keyboard Shortcuts](#)

---

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# Changing Keyboard Input Language

- 1. Click **Start**  → **Control Panel** → **Region and Language**.
- 2. On the **Keyboards and Languages** tab, click **Change keyboards**.
- 3. Under **Installed services**, click **Add**.
- 4. Click the language you want to add, select the text services you want to add, and then click **OK**.

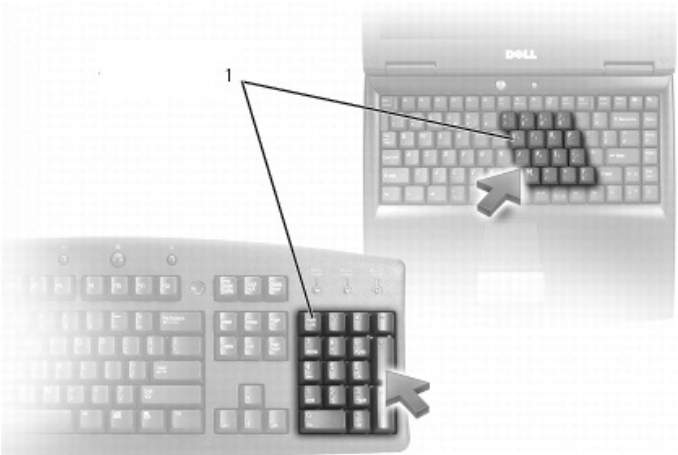
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## Related Information

- [Keyboard](#)
- [Backlit Keyboard](#)
- [Customizing Your Keyboard](#)
- [Keyboard Connection Types](#)
- [Using the Numeric Keypad on a Laptop Computer](#)
- [General Keyboard Shortcuts](#)




# Using Numeric Keypad on a Laptop Computer



1	Numeric keypad
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Your laptop computer may have a numeric keypad integrated into the keyboard. The keypad corresponds to the keypad of an extended keyboard.

- To type a number or symbol, press and hold <Fn> and press the desired key.
- To enable the numeric keypad, press <Num Lk>. The  light indicates that the keypad is active.
- To disable the numeric keypad, press <Num Lk> again.

---

## Related Information









- [Keyboard](#)
- [Customizing Your Keyboard](#)
- [Keyboard Connection Types](#)
- [Backlit Keyboard](#)
- [Changing the Input Language of Your Keyboard](#)
- [General Keyboard Shortcuts](#)



# Audio Connectors

Audio connectors allow you to connect to amplifiers, speakers, headphones, microphones, sound systems, or TVs for digital audio output.

## Types of audio connectors



	<b>Microphone connector</b> — Connect a personal computer microphone for voice or sound input.
	<b>Line-in connector</b> — Connect a recording/playback device such as a cassette player, CD player, or VCR.
	<b>Line-out connector</b> — Connect headphones or speakers with integrated amplifiers.
	<b>Rear surround out</b> — Connect multichannel-capable speakers.
	<b>Center/LFE surround out</b> — Connect a single subwoofer. <b>NOTE:</b> The Low Frequency Effects (LFE) audio channel, found in digital surround sound audio schemes, carries only frequency information (80 Hz and below). The LFE channel drives a subwoofer to provide extremely low bass extension. Systems not using subwoofers can shunt the LFE information to the main speakers in the surround sound setup.
	<b>Side surround sound connector</b> — Connect additional speakers.
	<b>RCA S/PDIF connector</b> — Transmit digital audio without the need of analog audio conversion.
	<b>Optical S/PDIF connector</b> — Transmit digital audio without the need of analog audio conversion.

## 5.1 Audio

5.1 refers to the number of audio channels in most surround-sound configurations. A 5.1 audio system uses five main audio channels (front left, front right, center, left surround, and right surround) and one low-frequency audio channel.

## 7.1 Audio

7.1 refers to the number of audio channels in high-end surround-sound configurations. A 7.1 audio system uses two additional speakers (rear left and rear right) in combination with the 5.1 audio system.

-  **NOTE:** 5.1 or 7.1 audio may not be supported on all computers.
-  **NOTE:** On computers with a discrete sound card, connect the speakers to the connectors on the card.

### Related Information

- [Speakers](#)
- [Setting Up 5.1 Audio](#)
- [Setting Up 7.1 Audio](#)



# USB

Universal Serial Bus (USB) is a standard to establish communication between a computer and different devices. USB allows high speed connection of peripherals to a computer. Using USB, you can connect devices like mice, keyboards, printers, external drives, digital cameras, mobile phones, and so on. USB also supports Plug-and-Play installation and hot swapping.


Plug-and-Play allows your computer to recognize that a device is plugged in without restarting your computer. Hot swapping allows you to remove and connect different USB devices without restarting your computer.




## USB Connectors

- Mini USB** — A mini-USB connector is a small cable connector which is used in electronic devices primarily used for data connectivity. Devices such as cameras, MP3 players, mobile phones, and so on use Mini USB connector.
- Micro USB** — A micro-USB connector is smaller than mini-USB connector and allows you to communicate directly amongst the devices without a need for a computer.

## USB Standards

- USB 3.0** — Referred to as SuperSpeed USB, USB 3.0 is the latest version of the USB standard. It supports data transmission speed of up to 4.8 gbps, which is ten times faster than its predecessor USB 2.0, yet consumes lesser power. USB 3.0 is backward compatible with earlier USB standards such as USB 1.x and USB 2.0.
- USB 2.0** — Referred to as Hi-Speed USB, it provides additional bandwidth for multimedia and storage applications. USB 2.0 supports data transmission speed up to forty times faster than USB 1.1.
- USB 1.x** — Legacy USB standard supporting data transfer speeds up to 11 mbps.

**USB PowerShare** — The USB PowerShare feature allows you to charge USB devices when the computer is powered off or is in sleep state.  icon indicates that the USB connector supports PowerShare feature.

-  **NOTE:** Certain USB devices may not charge when the computer is powered off or in sleep state. In such cases, turn on the computer to charge the device.
-  **NOTE:** If you turn off your computer while charging a USB device, the device stops charging. To continue charging, disconnect the USB device and connect it again.
-  **NOTE:** Charging through the USB PowerShare feature is automatically disabled when the battery charge reaches 10 %. You can configure this limit using the system setup.

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### Related Information

[eSATA](#)

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## Digital Visual Interface

Digital Visual Interface (DVI) carries high-resolution video signals. You can use DVI to connect your computer to displays such as flat-panel monitors, LCD TVs, and so on.

There are three types of DVI connections:

- **DVI - D (DVI -Digital)** — DVI-D is used for direct digital connection between the video card (source) and the digital display. This provides fast and high-quality video output.
- **DVI - A (DVI -Analog)** — DVI-A is used to send video signals to an analog display like a CRT monitor or analog LCD.
- **DVI - I (DVI -Integrated)** — DVI-I is an integrated connector that can send either a digital-to-digital signal or analog-to-analog signal. This makes it more versatile as it can be used in both analog and digital environments.

DVI-D	DVI-A	DVI-I
		

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### Related Information

[Connecting a Display to the Digital Visual Interface](#)


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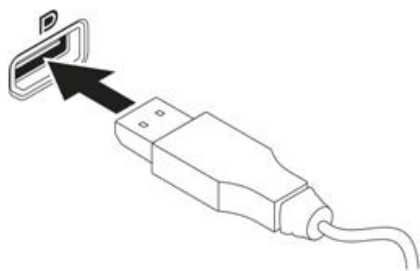


# DisplayPort/Mini-DisplayPort

DisplayPort is a digital display interface that defines a royalty-free, digital audio/video interconnect. DisplayPort allows you to connect a computer to a display or home-theater system.

Mini-DisplayPort is a smaller version of the DisplayPort. Dell provides Mini-DisplayPorts in place of DisplayPorts on the Dell Inspiron Mini series of computers.

 **NOTE:** DisplayPorts and Mini-DisplayPorts vary in size. To connect devices that support DisplayPort to a Mini-DisplayPort connector, you must use a Mini-DisplayPort to DisplayPort adapter.



## Advantages of DisplayPort

- Natively supports high resolutions and high refresh rates
- Supports 3D stereo transmission making it an ideal gaming interface
- DisplayPort cables can extend up to 15 meters (49.21 feet) without requiring signal boosters
- Delivers a bandwidth of up to 10.8 gbps over standard cables
- Natively supports fiber optic cables
- Blu-ray Disc ready with built-in support for HDCP. With its unique direct drive capability, DisplayPort simplifies the design of ultra-elegant HDTVs, enabling ultra-thin high definition display panels with separate electronics units that can be hidden from view
- Supports plug-and-play adapters that allow you to connect displays using older connection standards such as DVI, HDMI, and VGA

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### Related Information

[Digital Visual Interface \(DVI\)](#)

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## HDMI

High Definition Multimedia Interface (HDMI) transmit audio and video signals in a single digital interface. HDMI connects audio and video sources such as set-top boxes, DVD players, Blu-ray Disc players, computers, and video game consoles to compatible digital audio devices, such as computers, monitors, video projectors, and digital televisions. A HDMI cable is similar to a USB cable that slides into the connector of the source device.



### Advantages of HDMI :

- Delivers high quality audio and video without the loss in quality due to the conversion or compression of a video or audio signal.
- Delivers smoother and sharper pictures with a distinct reduction in video noise. Sound is crisp and distortion free.
- Since it is a digital interface, HDMI is compatible with fixed-pixel displays such as LCDs, plasma displays, and projectors.

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### *Related Information*

[DisplayPort/Mini-DisplayPort](#)

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# eSATA Connector

eSATA is a bus technology designed to connect *external* mass storage devices, such as hard drives and optical drives, to your computer. eSATA provides considerably higher throughput as compared to USB 2.0 or FireWire 800. eSATA cables can be up to 2 meters long.

eSATA ports can be standalone or can be present in the form of an eSATA/USB combo port.



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## Related Information

[USB](#)  
[IEEE 1394](#)

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# S/PDIF

S/PDIF is a standard for transferring audio in digital format.

You can connect the S/PDIF output from your computer to the S/PDIF input on your home theater receiver. This connection allows you to set up a 5.1 audio (also known as 6-channel audio) connection.

There are two kinds of S/PDIF connections:

- Optical — Set up by optical fiber with TOSLINK connectors
- Coaxial — Set up by coaxial cable with RCA connectors

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## Related Information

[Audio connectors](#)

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# IEEE 1394

The IEEE 1394 interface is a serial bus interface standard and enables simple, low-cost, high-bandwidth isochronous (real-time) data interaction between computers, peripherals, and consumer electronics products such as camcorders, VCRs, printers, TVs, and digital cameras. With IEEE 1394-compatible products and systems, you can transfer video or still images without losing quality.

## Key Features

- Digital — Provides better signal quality as it does not require digital-analog-digital conversion.
- Connectivity — Uses a thin serial cable that, through the use of repeaters, can be extended to 100 meters or more over CAT5, fiber optic, or coaxial cables.
- Easy to use — Eliminates the need for special drivers or perform complicated set-ups.
- Hot pluggable — Enables devices to be added and removed while the device and computer are turned on.
- Flexible — Allows you to connect devices to each other by daisy-chaining them together, without the need for hubs or switches. Also supports branching, looping, and other topologies, which reduces cabling complexity. Supports up to 64 devices on a single connection.
- Fast — Supports delivery of time-critical data at multiple speeds, currently including 100, 200 400, and 800 Megabits per second over a single continuous cable or bus. This enables high-quality audio and video applications at low costs.

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### ***Related Information***

[Types of IEEE 1394 Cables](#)  
[Comparing USB and IEEE 1394](#)

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## Network

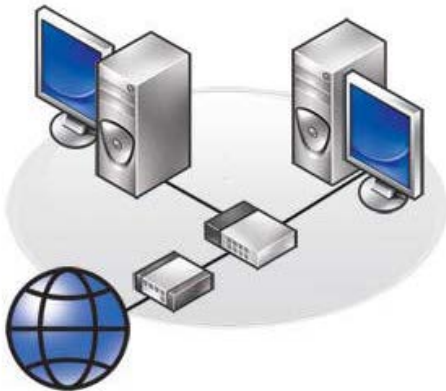
A computer network provides connectivity between your computer and the Internet, another computer, or a peripheral such as a printer. For example, with a network set up in a home or small office, you can:

- Print to a shared printer
- Access drives and files on another computer
- Share files
- Browse other networks
- Access the Internet

You can set up a local area network (LAN) using a broadband modem and network cables, or you can set up a wireless LAN (WLAN) using a wireless router or access point.

A Network Connections Wizard guides you through the process of setting up a computer network and connecting to other networks.

### Local Area Network (LAN)



LAN connects two or more computers with each other through a network cable connected to each computer. This type of computer network generally covers a small area. A LAN can be connected to another LAN over any distance through telephone lines and radio waves to form a wide area network (WAN).

### Wireless Local Area Network (WLAN)



WLAN connects two or more computers with each other and the Internet over the air waves rather than through a network cable connected to each computer.

In a WLAN, a radio communications device (an access point or wireless router) connects the networked computers and peripherals, and provides Internet or network access. The access point or wireless router and the wireless network card in the computer communicate by broadcasting data from their antennas over the air waves.

### Wireless Wide Area Network (WWAN)

WWAN is also known as Mobile Broadband network, is a high-speed digital cellular network that provides Internet access over a much wider geographical area than a WLAN, which typically covers only from 100 to 1000 feet. Your computer can maintain Mobile Broadband network access as long as the computer is within a cellular-data coverage zone. Contact your service provider for coverage details.

### Wireless Personal Area Network (WPAN)

WPAN helps interconnect wireless devices centered around your personal workspace. WPAN technology supports communication over a short distance. Bluetooth, used as the basis for a new standard, IEEE 802.15. is an example of WPAN

### Worldwide Interoperability for Microwave Access (WiMAX)

WiMAX is a standards based telecommunications technology that provides wireless data. WiMAX enables delivery of last mile wireless broadband access as an alternative to wired broadband like cable and DSL. It is based on the IEEE 802.16 standard, which is also called Wireless MAN and provides fixed and laptop connectivity without the need for direct line-of-sight with a base station. Mobile wireless broadband support is expected in the near future.

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***Related Information***

- [Setting Up Your Network](#)
- [Setting Up LAN](#)
- [Setting Up WLAN](#)
- [Setting Up a Wired Internet Connection](#)
- [Setting Up a Wireless Internet Connection](#)

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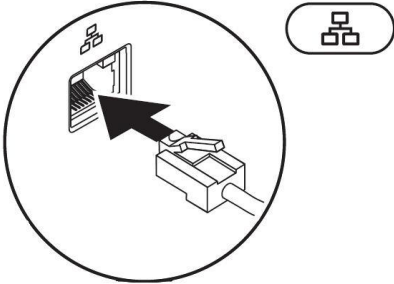


## Setting Up Your Network

### Setting Up a Wired Network

To connect to a wired network:

1. Connect the network cable.



2. Connect to the Internet using an external modem or network connection and an Internet Service Provider (ISP). If an external USB modem or WLAN adapter is not a part of your original order, you can purchase one from **dell.com**.

### Setting Up Wireless Network

To connect to a wireless network:

1. Enable wireless on your computer.
2. Connect to the Internet using an external wireless modem or wireless network connection and an Internet Service Provider (ISP). If an external wireless modem or WLAN adapter is not a part of your original order, you can purchase one from **dell.com**.


### Setting Up Your Internet Connection


ISPs and ISP offerings vary by country. Contact your ISP for offerings available in your country.

If you cannot connect to the Internet but have successfully connected in the past, the ISP might have a service outage. Contact your ISP to check the service status, or try connecting again later.

Have your ISP information ready. If you do not have an ISP, the **Connect to the Internet** wizard can help you get one.

To set up your Internet connection:

1. Save and close any open files, and exit any open programs.
2. Click **Start** , type `network` in the search box, and then click **Network and Sharing Center**→ **Set up a new connection or network**→ **Connect to the Internet**. The **Connect to the Internet** window appears.

 **NOTE:** If you do not know which type of connection to select, click **Help me choose** or contact your ISP.

3. Follow the instructions on the screen and use the setup information provided by your ISP to complete the setup.

---

#### Related Information

[Network](#)

[Setting Up LAN](#)

[Setting Up WLAN](#)

[Setting Up a Wired Internet Connection](#)

[Setting Up a Wireless Internet Connection](#)



# Setting Up a Local Area Network

The following steps are general guidelines for setting up a LAN.

- Cable or DSL broadband modem with Internet access established.
- Router — A router connects computers and peripherals on the network to each other, allowing the computers to share Internet access provided by the broadband modem. A router has multiple ports, each supporting one computer or one peripheral such as a printer. Install any software required for your router. Your router may have been shipped with installation media, which usually contains installation and troubleshooting information. Install the required software according to the instructions provided by the router manufacturer.
- Network cables — Use either CAT 5 or CAT 5e cables.
- Network interface card

## Setting Up a Wired Internet Connection

- If you are using a dial-up connection, connect the telephone line to the optional external USB modem and to the telephone wall jack before you set up your Internet connection.
- If you are using a DSL or cable/satellite modem connection, contact your ISP or cellular telephone service for setup instructions.

---

### Related Information

- [Network](#)
- [Setting Up Your Network](#)
- [Setting Up WLAN](#)
- [Setting Up a Wired Internet Connection](#)
- [Setting Up a Wireless Internet Connection](#)



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## Setting Up a Wireless Local Area Network

The following are general requirements for setting up a WLAN:

- Broadband Internet connection (such as cable or DSL)
- A broadband modem
- A wireless router
- A wireless network adapter for each computer that you want to connect to your WLAN
- A network cable with network (RJ-45) connectors

To set up WLAN:

Windows 7 and Windows Vista

1. Set up your wireless router. See the documentation that shipped with the wireless router.
2. Click **Start** , type `network` in the search box, and then click **Network and Sharing Center**→ **Set up a new connection or network**→ **Connect to the Internet**.  
The **Connect to the Internet** window appears.
3. Follow the instructions on the screen.

Windows XP

1. Set up your wireless router. See the documentation that shipped with the wireless router.
2. Click **Start**, and then click **Control Panel**.
3. In windows classic view, double-click **Network Connections**.
4. Click **Create a new connection**.
5. Follow the instructions on the screen.

### Checking Your Wireless Network Card



**NOTE:** To confirm that your computer has a wireless network card and to determine the type of card, check the order confirmation that you received when you ordered your computer.

Windows 7 and Windows Vista

1. Click **Start** , right-click **My Computer** and select **Properties**.
2. Under **Tasks**, click **Device Manager**.
3. Click **Network Adapters**.

Windows XP

1. Click **Start**, right-click **My Computer** and select **Properties**.
2. Click the **Hardware** tab.
3. Click Device **Manager**→ **Network Adapters**.

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#### Related Information

[Network](#)

[Setting Up Your Network](#)

[Setting Up LAN](#)

[Setting Up a Wired Internet Connection](#)

[Setting Up a Wireless Internet Connection](#)

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# Setting Up a Wired Internet Connection


You can setup a wired Internet connection using a dial-up, DSL, or a cable/satellite modem.

- If you are using a dial-up connection, connect the telephone line to the optional external USB modem and to the telephone wall jack before you set up your Internet connection.
- If you are using a DSL or cable/satellite modem connection, contact your Internet Service Provider (ISP) or cellular telephone service for setup instructions.

 **NOTE:** ISPs and ISP offerings vary by country. Contact your ISP for offerings available in your country.

Have your ISP information ready. If you do not have an ISP, the **Connect to the Internet** wizard can help you get one.

To setup a wired Internet connection:

1. Click **Start**  , type `network` in the search box, and then click **Network and Sharing Center**→ **Set up a new connection or network**→ **Connect to the Internet**.  
The **Connect to the Internet** window appears.

 **NOTE:** If you do not know which type of connection to select, click **Help me choose** or contact your ISP.

2. Follow the instructions on the screen and use the setup information provided by your ISP to complete the setup.

If you cannot connect to the Internet but have successfully connected in the past, the ISP might have a service outage. Contact your ISP to check the service status, or try connecting again later.


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## Related Information

- [Network](#)
- [Setting Up Your Network](#)
- [Setting Up LAN](#)
- [Setting Up WLAN](#)
- [Setting Up a Wireless Internet Connection](#)





# Setting Up a Wireless Internet Connection

 **NOTE:** To set up your wireless router, see the documentation that shipped with your router.

Before you can use your wireless Internet connection, you need to connect to your wireless router.

To set up your connection to a wireless router on Microsoft Windows 7 or Windows Vista:

1. Ensure that wireless is enabled on your computer.
2. Click **Start** , type `network` in the search box, and then click **Network and Sharing Center**→ **Set up a new connection or network**→ **Connect to the Internet**.  
The **Connect to the Internet** window appears.
3. Follow the instructions on the screen to complete the setup.

 **NOTE:** Actual steps may vary based on the operating system installed in your computer.

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## Related Information

- [Network](#)
- [Setting Up Your Network](#)
- [Setting Up LAN](#)
- [Setting Up WLAN](#)
- [Setting Up a Wireless Internet Connection](#)




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# Dell Stage


 **NOTE:** Dell Stage may not be available on all Dell systems.

The Dell Stage software installed on your computer provides access to your favorite media and multi-touch applications. It is designed to support various input devices, like the touch screen, mouse, keyboard, touchpad, and remote control.

Dell Stage can be installed on touchscreen and non touchscreen systems. Dell Stage consists of tiles that represent applications. You can add or remove tiles from Dell Stage. It also scales to multiple screen resolutions and is functional in multiple modes, like window mode or full-screen mode.

To launch Dell Stage Click **Start**  → **Programs** → **Dell Stage** → **Dell Stage**.

The following applications are available on Dell Stage:

 **NOTE:** Some applications may not be available depending on the selections you made while purchasing your computer.

- Music — Browse and play your music files. You can also listen to radio stations from across the globe. The optional Napster application allows you to download songs when connected to the Internet.
- YouPaint — Draw and edit pictures.
- Games — Play touch-enabled games.
- Documents — Access the Documents folder on your computer.
- Photo — View, organize, or edit your photos. You can create slide shows and albums to upload them to Facebook, Flickr, or Shutterfly when connected to the Internet. You can also zoom-in or zoom-out on a photo using the touch screen gestures.
- Dell Web — Preview of four important Dell web pages. Click or tap the web page preview to open it in your default web browser.
- Video — Play movies, videos, or watch TV shows using the Internet. You can use the optional CinemaNow application to purchase or rent movies and TV shows using the Internet.
- Shortcuts — Access your frequently-used programs.
- StickyNotes — Create notes or reminders using the keyboard or touch screen. These notes will appear on the bulletin board the next time you access StickyNotes. You can also save notes on your desktop.
- Web Tile — Preview of up to four of your favorite web pages. The tile allows you to add, edit, or delete a web page preview. Click or tap the web page preview to open it in the web browser. You can also create multiple Web Tiles through the Apps Gallery.

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## ***Related Information***

[Customizing Dell Stage](#)

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# About Computrace

Computrace allows you to track systems as they change hands or move around an organization, and helps to prevent theft and recover lost or stolen computers.

A Computrace enabled computer that can access the Internet, communicates regularly with the Computrace server to report system information, location, and user identity.

Computrace offers the following packages and features:

Complete	AbsoluteTrack	Plus	Lo/Jack for Laptops
Inventory Assets	Track computer hardware	Locate stolen computers	For home and home office
Secured asset tracking	Centralized lease information	Track leases	Protects against theft
Track stolen computers	Software inventory	Investigate loss	Locates using hidden software
Prevent theft	License compliance	Prevent theft	Recovers within 30 days
Remotely delete data			

 **NOTE:** Computrace may not be supported on your computer.

---

## Related Information

[How to Get Help on Computrace](#)  
[Enabling Computrace](#)

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# Customizing Dell Stage

You can customize Dell Stage as follows:

- Rearrange an application shortcut — Select and hold the application shortcut until it blinks and then drag the application shortcut to a desired location on Dell Stage.
- Minimize — Drag the Dell Stage window to the bottom of the screen.
- Personalize — Select the settings icon and then choose the desired option.

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## Related Information

[Dell Stage](#)

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## Enabling Computrace

1. Turn on (or restart) your computer.
2. When the DELL logo appears, press <F12> immediately.

 **NOTE:** If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop; then, shut down your computer and try again.

3. Select **Security** tab and then select **Computrace(R)**.
4. Select **Activate** to enable or **Deactivate** to disable the Computrace option.

 **NOTE:** Once you enable or disable the Computrace option in the BIOS settings, you will be unable to change this setting in future. This is to prevent from somebody else enabling or disabling this option.

 **NOTE:** You will need to install the Computrace software in Windows for the software to protect your computer.

---

### ***Related Information***

[Computrace](#)  
[How to Get Help on Computrace](#)

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## Getting Help on Computrace

Dell provides help on Computrace through Absolute Software. You may contact them for issues related to:

- configuration
- installation
- how-to questions
- error messages

To contact Absolute Software:

- see [www.absolute.com](http://www.absolute.com)
- send E-mails to [techsupport@absolute.com](mailto:techsupport@absolute.com)
- call **888-999-9857**

---

### ***Related Information***

[Computrace](#)  
[Enabling Computrace](#)

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# Dell Dock

An application containing a group of icons that provides easy access to frequently-used applications, files, and folders.



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## Related Information

[Personalize Dell Dock](#)


[Back to Contents Page](#)






# My Dell Downloads

My Dell Downloads is software repository that allows you to download and install software that you purchased or was pre-installed on your computer and did not receive the media for.

 **NOTE:** My Dell Downloads may not be available in all regions.

 **NOTE:** You must register to access My Dell Downloads.

My Dell Downloads allows you to:

- View all software that was originally shipped with the system.
- Download and install entitled software.
- Change your My Dell Downloads account password.
- Access your My Dell Downloads account through the Dell support website.

To register and use My Dell Downloads:

1. Go to **DownloadStore.dell.com/media**.
2. Follow the instructions on the screen to register and download the software.
3. Reinstall the software or create a backup media for future use.

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## Related Information

[Getting Help and Contacting Dell](#)  
[DellConnect](#)  
[Using DellConnect](#)

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# Personalizing Dell Dock

You can personalize the Dell Dock by:

- Adding or removing icons
- Grouping related icons into categories
- Changing the color and location of the Dock
- Changing the behavior of the icons

## Adding a Category

1. Right-click the Dock, click **Add→ Category**.  
The **Add/Edit Category** window appears.
2. Enter a title for the category in the **Title** field.
3. Select an icon for the category from the **Select an image:** box.
4. Click **Save**.

## Adding an Icon

Drag and drop the icon to the Dock or a category.

## Removing a Category or Icon

1. Right-click the category or icon on the Dock and click **Delete category** or **Delete shortcut**.
2. Follow the instructions on the screen.

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### Related Information

[Dell Dock](#)


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# Dell Support Center

The **Dell Support Center** provides system alerts, performance improvement offers, system information, and links to other Dell tools and diagnostic services.

To launch Dell Support Center, click **Start**  → **All Programs** → **Dell** → **Dell Support Center** → **Launch Dell Support Center**.

The Dell Support Center home page displays your computer's model number, service tag, express service code, warranty status, and alerts on improving the performance of your computer.

The home page also provides links to access:

**PC Checkup** — Run hardware diagnostics, see which program occupies the maximum memory on your hard drive, and track the changes made to your computer each day.

## PC Checkup Utilities

- **Drive Space Manager** — Manage your hard drive using a visual representation of space consumed by each type of file.
- **Performance and Configuration History** — Monitor system events and changes over time. This utility displays all hardware scans, tests, system changes, critical events and restoration points on the day they occurred.
  - **Detailed System Information** — View detailed information about your hardware and operating system configurations; access copies of your service contracts, warranty information, and warranty renewal options.
  - **Get Help** — View Dell Technical Support options, Customer Support, Tours and Training, Online Tools, Owner's Manual, Warranty Information, FAQs, and so on.
  - **Backup and Recovery** — Create recovery media, launch recovery tool, and online file backup.
  - **System Performance Improvement Offers** — Acquire software and hardware solutions that will help improve your system performance.

For more information about **Dell Support Center** and to download and install the available support tools, go to **DellSupportCenter.com**.

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## Related Information

[Solution Station](#)  
[DellConnect](#)  
[Dell QuickSet](#)  
[My Dell Downloads](#)

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# Solution Station

Solution Station is a one stop shop for premium support services providing Computer Configuration and Maintenance, Networking Set Up and Support, Home Entertainment Installation.


You can choose from one of the following support categories depending on your needs: **Phone support, Onsite support (in-home support), or Online services.**

Featured services include a free PC Health Check to optimize and speed up your computer, common errors and problem troubleshooting, Virus and Spyware removal, Wireless Network Setup, and more. You can also find articles and FAQs on the most common problems and instructions on connecting your computer to your TV and Home Networking.

The support categories provide flexible pricing and varying degrees of customer involvement in issue resolution.

## Solution Station Offerings

Type	Offerings
Computer Setup and Support	New Computer Setup File Transfer or Data Backup Service Internet and Email Setup Software Installation Computer Accessories Setup Windows Operating System Installation
Computer Maintenance and Security	Virus and Spyware Removal Antivirus Installation Internet Parental Control Free PC Health Check Speed up your Computer Basic Speed up your Computer Advanced Speed up your Computer Premium Upgrade your Internal Hardware Computer Errors and Problem Troubleshooting
Wireless Setup and Support	New Wireless Network Setup Connect a Device to an Existing Wireless Network Network Errors and Problem Troubleshooting
TV and Home Theater Setup	Professional TV Installation - On Stand Professional TV Installation - On Wall Professional TV and Home Theater Installation Home Theater Installation Remote Control Programming

 **NOTE:** Solution Station provides help on any technical brand.

---

### Related Information

[Getting Help and Contacting Dell](#)  
[DellConnect](#)  
[Using DellConnect](#)



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# DellConnect

DellConnect is an online tool that allows a Dell agent to access your computer (under your supervision) to diagnose and resolve issues on your computer.

DellConnect has two modes:

- View-only access — You retain control of your computer. The Dell agent views your screen and provides instructions.
- Full access to keyboard and mouse — The Dell agent takes control of your computer.

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## ***Related Information***

[Getting Help and Contacting Dell](#)  
[Using DellConnect](#)  
[Solution Station](#)

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## Dell QuickSet

Dell QuickSet Utilities are a suite of software applications that provide enhanced functionality to a Dell portable computer. The software provides easy access to a number of functions that would normally require several steps. Some of the features include:

- Brightness and Audio Controls through Keyboard Keystrokes
- Power Management Controls
- Battery Information
- Icon Resizing
- Wireless Enable/Disable

## Installation

Dell QuickSet Utilities come pre-installed on a new Dell system, and can also be restored using the PC Restore utility or similar application. If neither of these are an option, you can download the software from **support.dell.com**. After downloading the executable file, you can double-click on it to start the install process.

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### ***Related Information***

[Getting Help and Contacting Dell](#)  
[Using DellConnect](#)  
[Solution Station](#)

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# Using DellConnect

Follow the instructions below to get connected to a Dell agent.


- 1. Go to **DellConnect.com**.
- 2. Click your region on the map.
- 3. Click your country or area from the list.
- 4. The Dell representative provides the appropriate number which corresponds to the correct support queue. Click this number to move to the next page.

Queue Selector Number	USA Support Queue
1	Consumer
2	Dell on Call
3	XPS
4	Relationship
5	Enterprise
6	Relationship GTS
7	Dell Business Support
8	Platinum Support

- 5. In the DellConnect Terms and Conditions page, click **I Agree**.

 **NOTE:** The **Terms and Conditions** information sets expectations of what will occur during a DellConnect session. Ask questions to your agent if you need clarity.

- 6. This page is where you enter the code provided by support agent.
- 7. Enter the code provided by the Dell representative in the field provided and click **Go**.
- 8. Download and install the DellConnect applet to run the screen sharing application.
- 9. After installing the applet, DellConnect checks for user permissions or firewall settings and so on.
- 10. If DellConnect detects any proxy or firewall settings, you may be prompted to enter your windows user name and password.

 **NOTE:** You can end the session by closing the chat window or by clicking File and Exit.

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## Related Information

[Getting Help and Contacting Dell](#)  
[DellConnect](#)  
[Solution Station](#)

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# NVIDIA 3DTV Play

The NVIDIA 3DTV Play application installed on your computer allows you to play 3D games, watch Blu-ray 3D videos, and browse 3D photos.

## 3D Games

The NVIDIA 3DTV Play application supports the same games as NVIDIA 3D Vision. For a list of supported 3D games, see [www.nvidia.com](http://www.nvidia.com).

### Playing Games in 3D

1. Launch the game in full-screen mode.
2. If you see a message stating that the current mode is not HDMI 1.4 compatible, set the in-game resolution to **720p, 1280x720** in HD 3D mode.

### Keyboard Shortcuts

The following are some of the keyboard shortcuts available for 3D gaming:

Keys	Description	Function
<Ctrl><t>	Shows/hides stereoscopic 3D effects	Turns 3DTV Play on/off. <b>NOTE:</b> The gaming performance may reduce when using HD 3D mode even if 3DTV Play is disabled. To maximize performance, select HD or SD mode when 3DTV Play is disabled.
<Ctrl><F4>	Increases 3D depth	Increases the 3D depth, in real-time, in the current game.
<Ctrl><F3>	Decreases 3D depth	Decreases the 3D depth, in real-time, in the current game.
<Ctrl><F11>		Captures a 3D screenshot of the current game, and saves the file in the <b>My Documents\NVSteroscopic3D.IMG folder</b> . To view the file, use the NVIDIA 3D Photo Viewer.
<Ctrl><Alt><Insert>	Show/hide in-game compatibility message	Displays the NVIDIA recommended settings for the current game.
<Ctrl><F6>	Increases convergence	Moves objects towards you; maximum convergence places all objects in front of the scene in your space; also used to place the laser sight.
<Ctrl><F5>	Decreases convergence	Moves objects away from you; minimum convergence places all objects behind the scene in your space; also used to place the laser sight.

### Customizing Shortcut Keys

To customize the keyboard shortcuts:

1. Right-click the desktop and select **NVIDIA Control Panel**.
2. In the **NVIDIA Control Panel** window, click **Stereoscopic 3D** to expand the selection, and then click **Set keyboard shortcuts**.
3. Click the box displaying the shortcut you want to change.
4. Press the desired key combination.
5. Click **OK** to save and exit.

## 3D Photos

You can view stereoscopic 3D photos using the NVIDIA Photo Viewer available in the NVIDIA 3DTV Play application. The photo viewer also allows you to edit the 3D effects in the photo. For more information on using the photo viewer and to download 3D photos, go to [www.nvidia.com](http://www.nvidia.com).


### Related Information

- [Display](#)
- [Wireless Display](#)
- [Touch Screen Display](#)
- [3D Display](#)
- [Setting Up 3D Display](#)



# Restoring Your Operating System

You can restore the operating system on your computer using one of the following options:

 **CAUTION:** Using Dell Factory Image Restore or the *Operating System* disc permanently deletes all data files on your computer. If possible, backup your data files before using these options.

Option	Use
System Restore	as the first solution
Dell DataSafe Local Backup	when System Restore does not resolve your problem
System recovery media	when operating system failure prevents the use of System Restore and DataSafe Local Backup when installing the factory image on a newly installed hard drive
Dell Factory Image Restore	to restore your computer to the operating state it was in when you received your computer
<i>Operating System</i> disc	to reinstall only the operating system on your computer

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## Related Information

- [System Restore](#)
- [Dell DataSafe Local Backup](#)
- [Dell DataSafe Local Backup Basic](#)
- [Dell DataSafe Local Backup Professional](#)
- [System Recovery Media](#)
- [Dell Factory Image Restore](#)
- [Operating System Disc](#)



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# System Recovery Media

The system recovery media, created using Dell DataSafe Local Backup, allows you to return your hard drive to the operating state it was in when you purchased the computer while preserving the data files on your computer.

Use the system recovery media in case of:

- Operating system failure that prevents the use of recovery options that are installed on your computer.
- Hard drive failure that prevents data from being recovered.

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## Related Information

- [Restoring Your Operating System](#)
- [Restoring Your Computer Using System Recovery Media](#)
- [System Restore](#)
- [Dell DataSafe Local Backup](#)
- [Dell DataSafe Local Backup Basic](#)
- [Dell DataSafe Local Backup Professional](#)
- [System Recovery Media](#)
- [Dell Factory Image Restore](#)
- [Operating System Disc](#)

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## System Restore

System Restore is a Microsoft Windows tool that helps you undo software changes to your computer without affecting your personal files, like documents, photos, e-mails, and so on.

Every time you install a software or device driver, your computer updates Windows system files to support the new software or device. Sometimes, this may cause some unexpected errors. System Restore helps you restore the Windows system files to the state prior to the installation of the software or device driver.

System restore creates and saves restore points at regular intervals. You use these restore points (or create your own restore points) to restore your computer's system files to an earlier known good state.

Use system restore if changes to changes to the hardware, software, or other system settings have left your computer in an undesirable operating state.



**NOTE:** System restore does not backup your personal files and hence it cannot recover your personal files that are deleted or damaged.

---

### ***Related Information***

[Restoring Your Operating System](#)  
[Starting System Restore](#)  
[Undoing System Restore](#)  
[Dell DataSafe Local Backup](#)  
[Dell DataSafe Local Backup Basic](#)  
[Dell DataSafe Local Backup Professional](#)  
[System Recovery Media](#)  
[Dell Factory Image Restore](#)  
[Operating System Disc](#)

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# Restoring Your Computer Using System Recovery Media

To restore your computer using the system recovery media:

1. Insert the system recovery disc or USB key and restart the computer.
2. When the DELL logo appears, press <F12> immediately.

 **NOTE:** If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop; then, shut down your computer and try again.
3. When the boot device list appears, highlight **CD/DVD/CD-RW Drive** and press <Enter>.
4. Press any key to boot from the optical drive.
5. Follow the instructions on the screen to complete the recovery process.


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## Related Information


- [Restoring Your Operating System](#)
- [System Restore](#)
- [Dell DataSafe Local Backup](#)
- [Dell DataSafe Local Backup Basic](#)
- [Dell DataSafe Local Backup Professional](#)
- [System Recovery Media](#)
- [Dell Factory Image Restore](#)
- [Operating System Disc](#)




# Starting System Restore

 **CAUTION:** System Restore does not monitor your data files or recover them.


Windows 7 and Windows Vista

1. Click **Start** .
2. In the search box, type `System Restore` and press <Enter>.

 **NOTE:** The User Account Control window may appear. If you are an administrator on the computer, click Continue; otherwise, contact your administrator to continue the desired action.

3. Click **Next** and follow the instructions on the screen.

Windows XP

1. Click **Start**  → **All Programs** → **Accessories** → **System Tools** → **System Restore**.
2. In the welcome screen, click **Next**.
3. Follow the instructions on the screen.

In the event that System Restore did not resolve the issue, you may undo the last system restore.



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## Related Information


- [Restoring Your Operating System](#)
- [System Restore](#)
- [Undoing System Restore](#)
- [Dell DataSafe Local Backup](#)
- [Dell DataSafe Local Backup Basic](#)
- [Dell DataSafe Local Backup Professional](#)
- [System Recovery Media](#)
- [Dell Factory Image Restore](#)
- [Operating System Disc](#)




# Undoing the Last System Restore

- **CAUTION:** Backup data files regularly. System Restore does not monitor or recover your data files.
- **NOTE:** Before you undo the last system restore, save and close all open files and exit any open programs. Do not alter, open, or delete any files or programs until the system restoration is complete.

## Windows 7 and Windows Vista

1. Click **Start** .
2. In the search box, type `System Restore` and press `<Enter>`.
3. Click **Undo my last restoration**, click**Next** and follow the instructions on the screen.

## Windows XP

1. Click **Start**  → **All Programs** → **Accessories** → **System Tools** → **System Restore**.
2. In the welcome screen, click **Undo my last restoration** and then click **Next**.
3. Follow the instructions on the screen.

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### Related Information

- [Restoring Your Operating System](#)
- [System Restore](#)
- [Starting System Restore](#)
- [Dell DataSafe Local Backup](#)
- [Dell DataSafe Local Backup Basic](#)
- [Dell DataSafe Local Backup Professional](#)
- [System Recovery Media](#)
- [Dell Factory Image Restore](#)
- [Operating System Disc](#)



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# Dell Factory Image Restore

 **NOTE:** Dell Factory Image Restore may not be available in certain countries or on certain computers.

Use Dell Factory Image Restore only as the last method to restore your operating system. This option restores your hard drive to the operating state it was in when you purchased the computer. Any programs or files added since you received your computer—including data files—are permanently deleted from the hard drive. Data files include documents, spreadsheets, e-mail messages, digital photos, music files, and so on. If possible, back up all data before using Dell Factory Image Restore.

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## *Related Information*

- [Restoring Your Operating System](#)
- [System Restore](#)
- [Dell DataSafe Local Backup](#)
- [Dell DataSafe Local Backup Basic](#)
- [Dell DataSafe Local Backup Professional](#)
- [System Recovery Media](#)
- [Starting Dell Factory Image Restore](#)
- [Operating System Disc](#)


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# Starting Dell Factory Image Restore

 **CAUTION:** Using Dell Factory Image Restore permanently deletes all data on the hard drive and removes any programs or drivers installed after you received your computer. If possible, back up the data before using this option. Use Dell Factory Image Restore only if System Restore did not resolve your operating system problem.

1. Turn on the computer.
2. When the DELL logo appears, press <F8> few times to access the **Advanced Boot Options** window.  
 **NOTE:** If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop; then, shut down your computer and try again.
3. Select **Repair Your Computer**.  
The **System Recovery Options** window appears.
4. Select a keyboard layout and click **Next**.
5. To access the recovery options, log on as a local user. To access the command prompt, type administrator in the User name field, then click **OK**.
6. Select **Dell Factory Image Restore** or **Dell Factory Tools**→ **Dell Factory Image Restore** (depending on the configuration of your computer).
7. Click **Next**.  
The **Confirm Data Deletion** screen appears.  
 **NOTE:** If you do not want to proceed with Dell Factory Image Restore, click **Cancel**.
8. Select the check box to confirm that you want to continue reformatting the hard drive and restoring the system software to the factory condition, then click **Next**.  
The restore process begins and may take five or more minutes to complete.
9. When the restore operation is complete, click **Finish** to restart the computer.





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## Related Information

- [Restoring Your Operating System](#)
- [System Restore](#)
- [Dell DataSafe Local Backup](#)
- [Dell DataSafe Local Backup Basic](#)
- [Dell DataSafe Local Backup Professional](#)
- [Dell Factory Image Restore](#)
- [Starting Dell Factory Image Restore](#)
- [Operating System Disc](#)



# Dell DataSafe Local Backup

- **CAUTION:** Using Dell DataSafe Local Backup permanently removes any programs or drivers installed after you received your computer. Prepare backup media of applications you need to install on your computer before using Dell DataSafe Local Backup. Use Dell DataSafe Local Backup only if System Restore did not resolve your operating system problem.
- **CAUTION:** Although Dell Datasafe Local Backup is designed to preserve the data files on your computer, it is recommended that you backup your data files before using the Dell DataSafe Local Backup.
- **NOTE:** Dell DataSafe Local Backup may not be available in all regions.
- **NOTE:** If Dell DataSafe Local Backup is not available on your computer, use Dell Factory Image Restore to restore your operating system.

Dell DataSafe Local Backup has two versions:

- Dell DataSafe Local Backup Basic
- Dell DataSafe Local Backup Professional


Dell DataSafe Local Backup		
Features	Basic	Professional
Restore your system back to factory state	√	√
Create system recovery media on DVD or USB media	√	√
Full system backup and restore to a previously saved point in time		√
File and folder backup and restore to a previously saved point in time		√
Backup and restore based on the file types (mp3, jpg, and so on)		√
Backup data to a local storage device		√
Automated scheduled backups		√

## Related Information

- [Restoring Your Operating System](#)  
[System Restore](#)  
[Dell DataSafe Local Backup Basic](#)  
[Dell DataSafe Local Backup Professional](#)  
[System Recovery Media](#)  
[Dell Factory Image Restore](#)  
[Operating System Disc](#)



# Dell DataSafe Local Backup Basic

Task	Procedure
To launch Dell DataSafe Local Backup	<div><div>1. Turn on your computer.</div><div>2. Click  → <b>Programs</b> → Start <b>Dell DataSafe</b> → <b>Dell DataSafe Local Backup</b>.</div></div>
To create system recovery media	<div><div>1. Launch Dell DataSafe Local Backup.</div><div>2. Click <b>Backup</b> → <b>Create Recovery Media</b>.</div><div>3. Follow the instructions on the screen.</div></div>
To restore your computer to a previous date or factory settings	<div><div>1. Launch Dell DataSafe Local Backup.</div><div>2. Click <b>Restore</b> → <b>Restore your entire system to a previous date or to the factory state</b>.</div><div>3. Follow the instructions on the screen.</div></div>



## Related Information

- [Restoring Your Operating System](#)
- [System Restore](#)
- [Dell DataSafe Local Backup](#)
- [Dell DataSafe Local Backup Professional](#)
- [System Recovery Media](#)
- [Dell Factory Image Restore](#)
- [Operating System Disc](#)



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# Operating System Disc

- **CAUTION:** Using the *Operating System disc* to restore your operating system permanently deletes all data files on your computer. If possible, backup your data files before using the operating system disc.
- **NOTE:** The *Operating System* disc is optional and may not ship with your computer.

You can use the *Operating System* disc to install or reinstall the operating system on your computer.

The installation process may take some time to complete. After you install the operating system, you must also reinstall the device drivers, virus protection software, and other software.

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## Related Information


- [Restoring Your Operating System](#)
- [System Restore](#)
- [Dell DataSafe Local Backup](#)
- [Dell DataSafe Local Backup Basic](#)
- [Dell DataSafe Local Backup Professional](#)
- [System Recovery Media](#)
- [Dell Factory Image Restore](#)
- [Reinstalling the Operating System Using the Operating System Disc](#)

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# Dell DataSafe Local Backup Professional

 **NOTE:** Dell DataSafe Local Backup Professional may be installed on your computer, if you ordered it at the time of purchase.

Task	Procedure
To upgrade to Dell DataSafe Local Backup Professional	<ol style="list-style-type: none"><li>1. Launch Dell DataSafe Local Backup.</li><li>2. Click <b>UPGRADE NOW!</b></li></ol>
To launch full system backup	<ol style="list-style-type: none"><li>1. Launch Dell DataSafe Local Backup.</li><li>2. Click <b>Backup→ Full System Backup.</b></li><li>3. Follow the instructions on the screen.</li></ol>
To launch File and Folder Local Backup	<ol style="list-style-type: none"><li>1. Launch Dell DataSafe Local Backup.</li><li>2. Click <b>Backup→ File &amp; Folder Local Backup.</b></li><li>3. Follow the instructions on the screen.</li></ol>
To restore specific files or folders from a Full System Backup	<ol style="list-style-type: none"><li>1. Launch Dell DataSafe Local Backup.</li><li>2. Click <b>Restore→ Restore specific files or folders from a Full System Backup.</b></li><li>3. Follow the instructions on the screen.</li></ol>
To restore specific files or folders from a File & Folder Backup	<ol style="list-style-type: none"><li>1. Launch Dell DataSafe Local Backup.</li><li>2. Click <b>Restore→ Restore specific files or folders from a File &amp; Folder Backup.</b></li><li>3. Follow the instructions on the screen.</li></ol>


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**Related Information**

- [Restoring Your Operating System](#)
- [System Restore](#)
- [Dell DataSafe Local Backup](#)
- [Dell DataSafe Local Backup Basic](#)
- [System Recovery Media](#)
- [Dell Factory Image Restore](#)
- [Operating System Disc](#)




# Reinstalling the Operating System Using the Operating System Disc

 **CAUTION:** Using the *Operating System* disc to reinstall the operating system, permanently deletes all data files on your computer. If possible, backup your data files before using these options.

To reinstall the operating system:

1. Insert the *Operating System* disc and restart the computer.
2. When the DELL™ logo appears, press <F12> immediately.

 **NOTE:** If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop; then, shut down your computer and try again.
3. Select the appropriate boot device from the list and press <Enter>.
4. Follow the instructions on the screen.

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## Related Information

- [Restoring Your Operating System](#)
- [System Restore](#)
- [Dell DataSafe Local Backup](#)
- [Dell DataSafe Local Backup Basic](#)
- [Dell DataSafe Local Backup Professional](#)
- [System Recovery Media](#)
- [Dell Factory Image Restore](#)
- [Operating System Disc](#)



# Diagnostics

- Invoking PSA
- Enhanced Pre-Boot System Assessment (ePSA)
  - Invoking ePSA
- Beep Codes



# Troubleshooting

- [Display Screen is Difficult to Read](#)
- [No Display on the Screen or Screen is Blank](#)
- [Keyboard Not Working, Not Detected, or Working Intermittently](#)

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## ***Related Information***

- [BIOS](#)
  - [Diagnostics](#)
  - [Restoring Your Operating System](#)
  - [Setting Up Your Computer](#)
  - [Getting Help and Contacting Dell](#)
- 





# System Setup (BIOS)

 **CAUTION: Do not change the settings in system setup unless you are an expert computer user. Certain changes can cause your computer to work incorrectly.**

The BIOS is the first program that runs on your computer when you turn it on. The primary function of the BIOS is to load and start the operating system. When the computer starts, the BIOS initializes and identifies system devices such as the video card, keyboard and mouse, hard disk, optical drive, and so on.

You can use the BIOS to:

- Change the system configuration information after you add, change, or remove any hardware in your computer
- Set or change a user-selectable option such as the user password
- Determine the current amount of memory or the type of hard drive installed



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## Related Information

- [System Setup Screens](#)
- [Entering System Setup \(BIOS\)](#)
- [Flashing the BIOS](#)



# Entering System Setup (BIOS)

-  **CAUTION:** Do not change system setup configuration unless you are an expert computer user. Incorrect configuration can cause your computer to work incorrectly or damage your computer.
-  **NOTE:** Before you change system setup configuration, it is recommended that you note the current system setup configuration for future reference.
1. Turn on (or restart) your computer.

2. When the DELL logo is displayed, wait for the F2 prompt to appear and then press <F2> immediately.
-  **NOTE:** The F2 prompt indicates that the keyboard has initialized. This prompt appears quickly and is displayed only briefly. Therefore you must press <F2> immediately once the prompt appears. If you press <F2> before the prompt appears or after the prompt closes, the keystroke is lost. If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop. Then, shut down your computer and try again.

---

## Related Information

- [System Setup \(BIOS\)](#)
- [Entering System Setup \(BIOS\)](#)
- [Flashing the BIOS](#)



# System Setup Screens

The System Setup screen displays the current or changeable configuration information for your computer. Information on the screen is divided into three sections: options list, active options field, and key functions.

<b>Menu</b> — Appears on top of the System Setup window and allows you to access the System Setup options. Press the left-arrow and right-arrow keys to navigate. As a <b>Menu</b> option is highlighted, the <b>Options List</b> lists the options that are available for your computer.		
<b>Options List</b> — Appears on the left side of the System Setup window. The field lists features that define the configuration of your computer, including installed hardware, power conservation, and security features. Scroll up and down the list with the up- and down-arrow keys. As an option is highlighted, the <b>Options Field</b> displays the option's current and available settings.	<b>Options Field</b> — Appears on the right side of <b>Options List</b> and contains information about each option listed in the <b>Options List</b> . In this field you can view information about your computer and make changes to your current settings. Press <Enter> to make changes to your current settings. Press <ESC> to return to the <b>Options List</b> .  <b>NOTE:</b> Not all settings listed in the <b>Options Field</b> are changeable.	<b>Help</b> — Appears on the right side of the System Setup window and contains help information about the option selected in <b>Options List</b> .
<b>Key Functions</b> — Appears below the <b>Options Field</b> and lists keys and their functions within the active system setup field.		

---

## Related Information


- System Setup (BIOS)
- [Changing the Boot Sequence for the Current Boot](#)
- [Changing the Boot Sequence for Future Boots](#)



## Changing the Boot Sequence for the Current Boot


You can use the **Boot Device Menu** to boot your computer from a device other than the default boot device. Your computer boots from the selected boot device only for the current boot, and boots from the default device on the next reboot. To boot using the **Boot Device Menu**:

1. If booting from the optical drive, insert the bootable media into the drive.  
If booting from a USB device, connect the USB device to your computer.  
If booting from a network, connect the network cable to your computer.
2. Turn on (or restart) your computer.
3. Press <F12> when F2 = Setup, F12 = Boot Menu appears on the screen.

 **NOTE:** If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop. Then shut down your computer and try again.

The **Boot Device Menu** appears.

4. Select the device you want to boot from by pressing up-arrow/down-arrow key or by pressing the number displayed next to the boot device.  
For example, if you are booting from a USB memory key, highlight **USB Flash Device** and press <Enter>.

 **NOTE:** The device you are trying to boot from must be bootable. To ensure your media is bootable, check the device documentation.


---

### Related Information

- [System Setup Screens](#)
- [Changing the Boot Sequence for Future Boots](#)
- [Entering System Setup \(BIOS\)](#)
- [Flashing the BIOS](#)



# Changing the Default Boot Sequence

1. Enter System Setup (see [Entering System Setup](#)).
2. Use the arrow keys to highlight the **Boot Device Configuration** menu option and press <Enter> to access the menu.  
 **NOTE:** Note the current boot sequence in case you want to restore it.
3. Press the up-arrow/down-arrow keys to move through the list of devices.
4. Press plus (+) or minus (-) to change the boot priority of the device.
5. Save changes and exit system setup.

---

## Related Information


- [System Setup Screens](#)
- [Changing the Boot Sequence for the Current Boot](#)
- [Entering System Setup \(BIOS\)](#)
- [Flashing the BIOS](#)



## Flashing the BIOS

The BIOS may require flashing when an update is available or when replacing the system board. To flash the BIOS:

1. Turn on the computer.
2. Go to **support.dell.com/support/downloads**.
3. Locate the BIOS update file for your computer:


 **NOTE:** The Service Tag for your computer may be located on a label at the top, back, or bottom of your computer.

If you have your computer's Service Tag:

- a. Click **Enter a Tag**.
- b. Enter your computer's Service Tag in the **Enter a service tag:** field, click **Go**, and proceed to [step 4](#).

If you do not have your computer's Service Tag:

- a. Click **Select Model**.
- b. Select the type of product in the **Select Your Product Family** list.
- c. Select the product brand in the **Select Your Product Line** list.
- d. Select the product model number in the **Select Your Product Model** list.

 **NOTE:** If you have selected a different model and want to start over again, click **Start Over** on the top right of the menu.

- e. Click **Confirm**.

4. A list of results appears on the screen. Click **BIOS**.
5. Click **Download Now** to download the latest BIOS file.  
The **File Download** window appears.
6. Click **Save** to save the file on your desktop. The file downloads to your desktop.
7. Click **Close** if the **Download Complete** window appears.  
The file icon appears on your desktop and is titled the same as the downloaded BIOS update file.
8. Double-click the file icon on the desktop and follow the instructions on the screen.

---

### Related Information

[System Setup \(BIOS\)](#)  
[Entering System Setup \(BIOS\)](#)  
[Flashing the BIOS](#)



# Before Calling Dell

If you contact Dell for help with your order or your computer, follow these steps to ensure faster service:

- Keep your computer's Service Tag or Express Service Code available.
- Remember to fill out the following Diagnostic Checklist. If possible, turn on your computer before you call Dell for assistance and call from a telephone at or near the computer. You may be asked to type some commands at the keyboard, relay detailed information during operations, or try other troubleshooting steps possible only at the computer itself. Ensure that the computer documentation is available.
- Diagnostic checklist:
  - Name:
  - Date:
  - Address:
  - Phone number:
  - Service Tag (barcode on the back or bottom of the computer):
  - Express Service Code:
  - Return Material Authorization Number (if provided by Dell support technician):
  - Operating system and version:
  - Devices connected to your computer:
  - Are you connected to the Internet? Yes/No:
  - Type of Internet connection? Wireless Broadband/Cable/DSL/Dial-up:
  - Any recent changes made to the computer software or hardware:
  - Any error message, beep codes, or diagnostic codes:
  - Description of the problem and any troubleshooting procedures you have performed:

---

## Related Information

[Locating the Service Tag and Express Service Code](#)  
[Computer Maintenance](#)

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## Computer Maintenance

It is recommended that you perform the following tasks to avoid general computer problems:

- Ensure that you allow easy access to a power source, adequate ventilation, and a level surface to place your computer.
- Do not block, push objects into, or allow dust to accumulate in the air vents.
- Use Dell Support Center to perform computer checkups, manage drive space, back up and recover data, and so on.
- Clean your computer regularly using a soft, dry cloth.

 **NOTE:** Do not use water or any other solvents to clean your computer.

- Perform a virus scan regularly.
- Back up your data regularly.
- Run Disk Defragmenter regularly to improve your computer's performance.
- Ensure that there is enough free space on your hard drive. Not having enough free space may result in degraded performance.
- Enable Windows and other software updates to correct software bugs and improve computer security.

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### ***Related Information***

[Dell Support Center](#)

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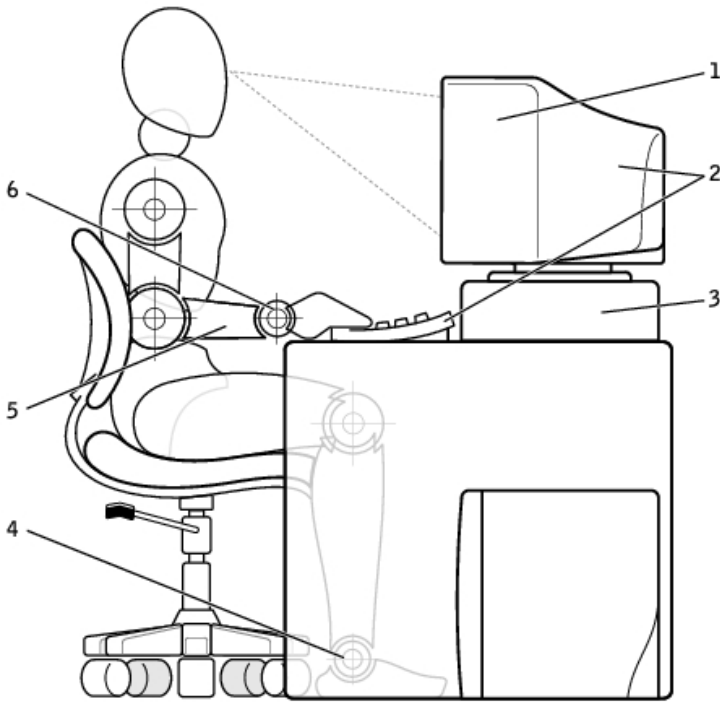


# Ergonomic Instructions for Desktops


- ⚠ **CAUTION:** Improper or prolonged keyboard use may result in injury.
- ⚠ **CAUTION:** Viewing the monitor screen for extended periods of time may result in eye strain.

For comfort and efficiency, observe the following ergonomic guidelines when setting up and using your computer:

- Position your computer so that the monitor and keyboard are directly in front of you as you work. Special shelves are available (from Dell and other sources) to help you correctly position your keyboard.
- Set the monitor at a comfortable viewing distance (usually 510 to 610 millimeters [20 to 24 inches] from your eyes).
- Ensure the monitor screen is at eye level or slightly lower when you are sitting in front of the monitor.
- Adjust the tilt of the monitor, its contrast and brightness settings, and the lighting around you (such as overhead lights, desk lamps, and the curtains or blinds on nearby windows) to minimize reflections and glare on the monitor screen.
- Use a chair that provides good lower back support.
- Keep your forearms horizontal with your wrists in a neutral, comfortable position while using the keyboard or mouse.
- Always leave space to rest your hands while using the keyboard or mouse.
- Let your upper arms hang naturally at your sides.
- Sit erect, with your feet resting on the floor and your thighs level.
- When sitting, ensure the weight of your legs is on your feet and not on the front of your chair seat. Adjust your chair's height or use a footrest, if necessary, to maintain proper posture.
- Vary your work activities. Try to organize your work so that you do not have to type for extended periods of time. When you stop typing, try to do things that use both hands.
- Keep the area under the desk clear of obstruction and cables or power cords that may interfere with comfortable seating or present a potential trip hazard.



1	monitor screen at or below eye level	4	feet flat on the floor
2	monitor and keyboard positioned directly in front of the user	5	arms at desk level
3	monitor stand	6	wrists relaxed and flat

 **NOTE:** For the latest ergonomic instructions, go to [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).

**Related Information**


[Ergonomic Instructions for Laptops](#)

[Back to Contents Page](#)



## Ergonomic Instructions for Laptops

 **CAUTION:** Improper or prolonged keyboard use may result in injury.

 **CAUTION:** Viewing the monitor screen for extended periods of time may result in eye strain.

Laptops are not necessarily designed for continuous operation as office equipment. If you intend to use your laptop continuously, it is recommended that you connect an external keyboard.

For comfort and efficiency, observe the following ergonomic guidelines when setting up and using your computer:

- Position your computer directly in front of you as you work.
- Adjust the tilt of the computer's display, its contrast and/or brightness settings, and the lighting around you (such as overhead lights, desk lamps, and the curtains or blinds on nearby windows) to minimize reflections and glare on the display.
- When using an external monitor with your laptop, set the monitor at a comfortable viewing distance (usually 450 to 610 millimeters [18 to 24 inches] from your eyes).
- Ensure that the monitor screen is at eye level or slightly lower when you are sitting in front of the monitor.
- Adjust the tilt of the monitor, its contrast and brightness settings, and the lighting around you (such as overhead lights, desk lamps, and the curtains or blinds on nearby windows) to minimize reflections and glare on the monitor screen.
- Use a chair that provides good lower back support.
- Keep your forearms horizontal with your wrists in a neutral, comfortable position while using the keyboard, touchpad, track stick, or external mouse.
- Always use the palm rest with the keyboard, touchpad, or track stick.
- Always leave space to rest your hands while using the keyboard or mouse.
- Let your upper arms hang naturally at your sides.
- Sit erect, with your feet resting on the floor and your thighs level.
- When sitting, ensure that the weight of your legs is on your feet and not on the front of your chair seat. Adjust your chair's height or use a footrest, if necessary, to maintain proper posture.
- Vary your work activities. Try to organize your work so that you do not have to type for extended periods of time. When you stop typing, try to do things that use both hands.

 **NOTE:** For the latest ergonomic instructions, go to [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).

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### Related Information

[Ergonomic Instructions for Desktops](#)

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## Dell and the Environment

Green is not about limitation, it's about possibility. It's about finding a better way.

Every day, you have the opportunity to make greener choices, but when choosing technology, you do not want to compromise on cost, performance or reliability. At Dell, we believe you shouldn't have to. Which is why we strive to ensure that people and companies don't have to make trade-offs to be green.

We make this a reality by delivering practical products and services that make an impact on real environmental issues, because at the heart of green is the powerful idea that better ways are possible. Better ways to use time, money and resources. Better ways to live, work and succeed in our world.

	<p><b>Bamboo—Nature's Eco-Friendly Packaging Solution</b></p> <p>To help achieve the shared goal of finding new ways to help preserve our planet's natural resources, Dell provides practical, but innovative packaging solutions that help minimize environmental effects. Less packaging means less hassle for customers. Recyclable packaging makes it easy to dispose. And sustainable materials are good for our planet.</p> <p>For easy disposal, our bamboo packaging is biodegradable and certified 'compostable' by the Soil Control Lab and currently cradles Dell's netbooks, some phones, and most Inspiron notebooks with more products to come in 2010.</p> <p>We know that responsible sourcing is important to you, so our bamboo is sourced from a forest far away from pandas' known habitats.</p>
	<p><b>Join the Plant a Tree Program</b></p> <p>Dell created the Plant a Tree program to make it easy for you to offset the greenhouse gas emissions from your computer equipment and to help build a healthier planet — one tree and forest at a time.</p>
	<p><b>Recycle With Dell</b></p> <p>As you upgrade computers and electronics, please join our efforts to keep technology out of the world's landfills. Recycling your home and business computers with us is fast, convenient and secure. Do yourself and your planet a favor. Dispose of your technology responsibly with Dell.</p>

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### Related Information

[Getting Help and Contacting Dell](#)



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## Regulatory Compliance Policy

Dell Inc. (Dell) is committed to compliance with the laws and regulations in each country into which the company ships our products. Dell products are designed and tested to meet the appropriate worldwide standards for Product Safety, Electromagnetic Compatibility, Ergonomics and other regulatory compulsory requirements, when used for their intended purpose.

To see the full details, visit the [Regulatory Compliance Web site](#).

## Contact Details for Regulatory Compliance Web site

For any questions related to Product Safety, EMC or Ergonomics, send an e-mail to [Regulatory\\_Compliance@dell.com](mailto:Regulatory_Compliance@dell.com).

## Additional Compliance Information

The World Wide Trade Compliance Organization (WWTC) is responsible for managing Dell's compliance to import and export regulations, including product classification. Classification data for Dell manufactured systems is provided within the product-specific, system Product Safety, EMC and Environmental Datasheet.

For any questions related to import or export classification of Dell products, send an e-mail to [US\\_Export\\_Classification@dell.com](mailto:US_Export_Classification@dell.com).

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## Migration Tips

Computer migration is the moving of data and applications between two different computers. Two of the most common reasons requiring a computer migration are the purchase of a new computer and the upgrading of computers.



**CAUTION:** While there are several utilities that simplify migration, it is recommended that you backup your files like pictures, music, documents, and so on.


## Migrating to Windows 7 From an Earlier Windows Operating System

Windows Easy Transfer is a step-by-step guide for transferring files and settings from one computer running Microsoft Windows to another. It helps you choose the data to move to your new computer, such as user accounts, Internet favorites, and e-mail. It also lets you decide the method to use and then performs the transfer.



**NOTE:** To use Windows Easy Transfer, you need to have an account with administrator rights.

To open Windows Easy Transfer:

1. Click **Start** .
2. In the search box, type **Easy Transfer**.
3. In the list of results, click **Windows Easy Transfer**.  
The **Windows Easy Transfer** window appears.

Using Windows Easy Transfer, you can transfer:

- Files and folders
- E-mail settings, contacts, and messages
- Program settings



**NOTE:** Windows Easy Transfer does not transfer the programs themselves, only the user-specified settings. Also, some programs may not work with Windows 7. Check your program documentation for more information.

- User accounts and settings like desktop backgrounds, screen savers, and accessibility options
- Internet settings and favorites
- Music

## Transfer Methods

You can use one of the following methods to transfer information, based on your computer configuration.

- **Easy Transfer Cable** — You need an Easy Transfer Cable, a specially designed USB cable that connects two computers through USB ports.
- **Network** — You must set up a network connection between the two computers and ensure that both computers can access the same network folders or location.
- **USB flash drive or external hard drive** — You will need a USB flash drive or an external hard drive compatible with both computers

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### Related Information

[My Dell Downloads](#)  
[Setting Up Your Desktop](#)  
[Setting Up Your Laptop](#)

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# Power Management

Power management helps you reduce the electricity consumption of your computer by regulating power supply to the various components. The system setup and the operating system allow you to configure when the power supply to certain components should be reduced or cut off.

Some common power-saving states in Microsoft Windows are:

- **Sleep** — Sleep is a power-saving state that allows a computer to quickly resume full-power operation (typically within several seconds) when you want to start working again. Putting your computer into the sleep state is like pausing a DVD player; the computer immediately stops what it is doing and is ready to start again when you want to resume working.
- **Hibernation** — Hibernation is a power-saving state designed primarily for laptops. While sleep puts your work and settings in memory and draws a small amount of power, hibernation puts your open documents and programs on your hard disk, and then turns off your computer. Of all the power-saving states in Windows, hibernation uses the least amount of power. On a laptop, use hibernation when you know that you won't use your laptop for an extended period and won't have an opportunity to charge the battery during that time.
- **Hybrid sleep** — Hybrid sleep is designed primarily for desktop computers. Hybrid sleep is a combination of sleep and hibernate it puts any open documents and programs in memory and on your hard disk, and then puts your computer into a low-power state so that you can quickly resume your work. That way, if a power failure occurs, Windows can restore your work from your hard disk. When hybrid sleep is turned on, putting your computer into sleep automatically puts your computer into hybrid sleep. Hybrid sleep is typically turned on by default on desktop computers.

---

## Related Information

[Configuring the Power Settings in Windows 7](#)  
[Dell Quickset](#)

---



# Improving the Battery Performance

The operating time of a battery, which is the time the battery can hold a charge, varies depending on how you use your laptop computer.

The following activities significantly reduce the operating time of your battery:

- Using optical drives.
- Using wireless communications devices, ExpressCards, media cards, or USB devices.
- Using high-brightness display settings, 3D screen savers, or other power-intensive programs like complex 3D graphics applications and games.

You may improve the battery performance by:

- Using the computer while connected to an electrical outlet when possible. Battery life reduces with the number of times the battery is discharged and recharged.
- Configuring the power management settings using Microsoft Windows Power Options to optimize your computer's power usage (see [Power Management](#)).
- Using the Sleep power state when you leave the computer unattended for long periods of time.

The life of the battery decreases over time depending on how often the battery is used and the conditions under which it is used. You may need to purchase a new battery during the life of your computer.

---



## Related Information

- [Laptop Battery](#)
  - [Charging the Battery](#)
- 





# Touchpad Gestures

-  **NOTE:** Some of the touchpad gestures may not be supported on your computer.
-  **NOTE:** You can change the touchpad gestures settings by double-clicking the touchpad icon in the notification area of your computer desktop.

Your computer may support **Scroll**, **Zoom**, **Rotate**, **Flick**, **My Favorites**, and **Desktop** gestures.

## Scroll

Allows you to scroll through content. The scroll feature includes:

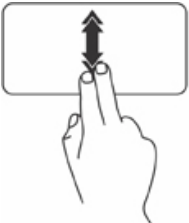
**Pan** — Allows you to move the focus on the selected object when the entire object is not visible.

Move two fingers in the desired direction to pan scroll the selected object.



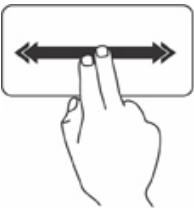
**Auto Scroll Vertical** — Allows you to scroll up or down on the active window.

Move two fingers up or down at a fast pace to activate vertical auto scrolling. Tap on the touchpad to stop auto scrolling.



**Auto Scroll Horizontal** — Allows you to scroll left or right on the active window.

Move two fingers to your left or right at a fast pace to activate horizontal auto scrolling. Tap on the touchpad to stop auto scrolling.



**Circular Scroll** — Allows you to scroll up or down, and right or left.

To scroll up or down: Move a finger in the vertical scroll zone (extreme right of the touchpad), in a clockwise circular motion to scroll up or counterclockwise circular motion to scroll down.



To scroll right or left: Move a finger in the horizontal scroll zone (extreme bottom of the touchpad), in a clockwise circular motion to scroll right or counterclockwise circular motion to scroll left.



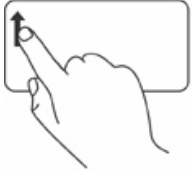
## Zoom

Allows you to increase or decrease the magnification of the screen content.

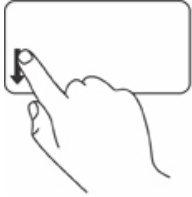
The zoom feature includes:

**One finger zoom** — Allows you to zoom in or out.

To zoom in: Move a finger up in the zoom zone (extreme left of the touchpad).

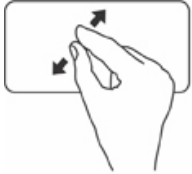


To zoom out: Move a finger down in the zoom zone (extreme left of the touchpad).

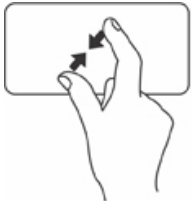


**Pinch** — Allows you to zoom in or zoom out by moving two fingers apart or bringing them closer together on the touchpad.

To zoom in: Move two fingers apart to enlarge the view of the active window.



To zoom out: Move two fingers close together to reduce the view of the active window.

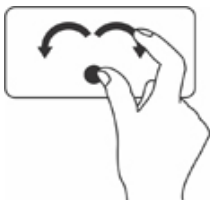


## Rotate

Allows you to rotate the active content on the screen. The rotate feature includes:

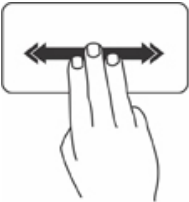
**Twist** — Allows you to rotate active content in 90° increments using two fingers where one finger is anchored and the other rotates.

Keeping the thumb in place, move the index finger in an arced direction right or left to rotate the selected item 90° clockwise or counterclockwise.



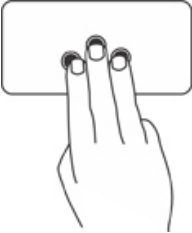
## Flick

Allows you to flip content forward or backward based on the direction of the flick.  
Move three fingers quickly in the desired direction to flip content in the active window.



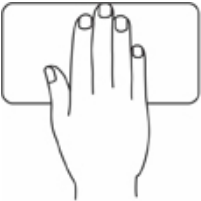
## My Favorites

Allows you to open your favorite applications.  
Tap three fingers on the touchpad. The applications that are configured in the touchpad configuration tool launch.



## Desktop

Allows you to minimize all open windows so that the desktop is visible.  
Place your hand on the touchpad in any orientation and briefly hold in place.



---

### Related Information

[Touchpad](#)

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# About Touchpad

A touchpad provides the functionality of a mouse to move the cursor, drag or move selected items, and right-click or left-click by tapping the surface. A touchpad has a touch-sensitive surface that senses the motion and position of your finger(s) to a relative position on the computer screen. Touchpads are available on laptop computers and some high-end keyboards.

---

***Related Information***


[Touchpad Gestures](#)

---



# Touchscreen Gestures

Touchscreen gestures enhance the usability of a touchscreen display by allowing you to perform tasks like zoom, scroll, rotate, and so on, by sliding or flicking your finger on the display.

 **NOTE:** Some of these gestures are application-specific and may not work across applications.

## Zoom

Allows you to increase or decrease the magnification of the active screen content by moving two fingers apart or bringing them closer together on the display.

Zoom in



Zoom out



## Dwell

Allows you to access additional information by simulating a right-click.



Press and hold a finger on the touch screen, to open context-sensitive menus.

## Flick

Allows you to flip content forward or backward based on the direction of the flick.

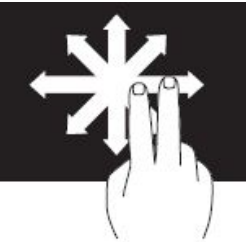


Move a finger quickly in the desired direction to flip through content in the active window like pages in a book. Flick also works vertically when navigating content such as images or songs in a playlist.

## Scroll

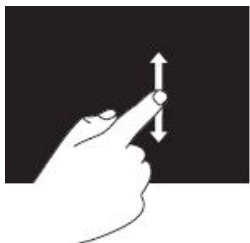
Allows you to scroll through content. The scroll features include:

**Pan** — Allows you to move the focus on the selected object when the entire object is not visible.



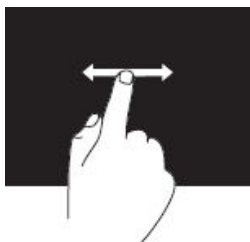
Move two fingers in the desired direction to pan scroll the selected object.

**Scroll Vertical** — Allows you to scroll up or scroll down on the active window.



Move a finger up or down to activate vertical scrolling.

**Scroll Horizontal** — Allows you to scroll right or left on the active window.



Move a finger to the right or left to activate horizontal scrolling.

## Rotate

Allows you to rotate the active content on the screen.

**Twist** — Allows you to rotate the active content using two fingers.



Keeping a finger or thumb in place, move the other finger in an arced direction right or left. You can also rotate the active content by moving both the fingers in a circular motion.

---

### ***Related Information***

[Touch Screen Display](#)  
[Using Touch Screen Display](#)

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# Keyboard Not Working, Not Detected, or Working Intermittently

 [External Keyboard](#)

 [Laptop Keyboard](#)

## External Keyboard

1. Ensure that the keyboard is firmly connected to the computer.
2. Shut down the computer and disconnect the keyboard from the computer.
3. Ensure that the keyboard cable is not damaged or frayed.
4. Check the cable connector for any bent or broken pins. Straighten any bent pins.
5. Reconnect the keyboard to the computer.
6. If you are using a wireless or Bluetooth keyboard, reinstall the batteries. See the document that shipped with your Bluetooth keyboard for more information.
7. If you are using a USB keyboard, try connecting the USB keyboard to a different USB connector.
8. If you are using a PS/2 keyboard, try connecting the keyboard to the PS/2 mouse connector.
9. Connect the keyboard to a different computer, if available.
10. If the keyboard works on another computer or connector, there may be a problem with the computer or connector. Contact Dell for further assistance.

## Laptop Keyboard

1. Shut down the computer.
2. Restart the computer and test the keyboard.
3. If the keyboard is still not working:
  - a. Shut down the computer.
  - b. Disconnect all the external devices.
  - c. Test the keyboard.
4. If the keyboard works with all the external devices disconnected, reconnect one device at a time to identify the device that is causing the problem.
5. If a particular key is not working or is stuck, shut down the computer and carefully clean the keyboard using a can of compressed air.
6. Disable any software that may change the way the keyboard responds.
7. If the keyboard is still not working, contact Dell.

---

### ***Related Information***

[Keyboard](#)

[Backlit Keyboard](#)

[Customizing Your Keyboard](#)

[Keyboard Connection Types](#)

[Using the Numeric Keypad on a Laptop Computer](#)

[Dell Knowledge Base Article: 277550](#)


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# Enabling a Webcam

- 1. Click **Start**  → **Control Panel** → **Device Manager**.
- 2. Click **Imaging Devices** and then double-click **Camera**.
- 3. Click **Enable**.  
The webcam is now enabled.

Open the webcam software to use all features of the webcam.

---

## Related Information

[Camera](#)  
[Setting Up Webcam](#)

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# Display Screen is Difficult to Read

 [Desktop](#)

 [Laptop](#)


## Desktop

1. Adjust the resolution of the screen. For more information, click **Start**→ **Help and Support**.
2. Move the monitor away from electrical devices like fans, fluorescent lights, and halogen lamps.
3. Ensure that the subwoofer is at least 60 cm away from the monitor.
4. Ensure that the power cable is connected correctly to the monitor and the electrical outlet.
5. Ensure that the monitor video cable is connected to the correct connector on the computer.

 **NOTE:** If your computer supports both integrated and discrete video cards, you must connect your monitor to the discrete video card.

6. If you are using an adapter to connect your monitor to the computer, ensure that the adapter is connected correctly to the monitor and computer.
7. Ensure that there are no bent or broken pins on the video cable connectors.
8. If you have another monitor that works, connect it to the computer to check if the monitor is defective.
9. Contact Dell.

## Laptop

1. Adjust the resolution of the screen. For more information, click **Start**  → **Help and Support**.
2. Download and install the latest video drivers from **support.dell.com**.
3. Run the display built-in self test:
  - a. Turn off your computer.
  - b. Press and hold the <Fn> and power buttons for 10–15 seconds.  
The display built-in self test begins.
  - c. Follow the instructions on the screen.
4. If the problem still remains, contact Dell.

---

### Related Information

[Display](#)  
[Setting Up Your Display](#)  
[No Display on the Screen or Screen is Blank](#)  
[Dell Knowledge Base Article: 266426](#)  
[Getting Help and Contacting Dell](#)

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# No Display on the Screen or Screen is Blank

 [Desktop](#)

 [Laptop](#)

## Desktop

### If the monitor power light is off:

1. Ensure that the power cable is connected to the monitor and electrical outlet.
2. Ensure that both the monitor and computer are receiving power and are turned on.
3. If both the monitor and computer are not receiving power, ensure that the electrical outlet is working by testing it with another device.
4. If the computer power button/light is on, swap the computer and monitor power cables to determine if the monitor power cable is defective.
5. Contact Dell.

### If the monitor power light is on:




1. Ensure that the computer is receiving power and is turned on.
2. If the computer is not receiving power, swap the monitor and computer power cables to determine if the power cable is defective.
3. If the computer is receiving power:
  - a. Adjust the display brightness. See the monitor documentation at [support.dell.com/manuals](https://support.dell.com/manuals).
  - b. Ensure that the monitor video cable is connected to the correct connector on the computer.



**NOTE:** If your computer supports both integrated and discrete video cards, you must connect your monitor to the discrete video card.

- c. Remove any adapters or extension cables and connect the monitor directly to the computer.
  - d. Check the diagnostic lights on your computer.
4. Contact Dell.

## Laptop

1. Adjust the display brightness by press the <Fn> and  or <Fn> and  keys.
2. Press the <Fn> and  to toggle between dual display modes.
3. Connect to an external monitor and check if there is a display on the external monitor.
4. Contact Dell.

---

### Related Information

[Display](#)  
[Setting Up Your Display](#)  
[Display Screen is Difficult to Read](#)  
[Dell Knowledge Base Article: 266426](#)  
[Getting Help and Contacting Dell](#)

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# Webcam

A webcam is a device that allows you to capture real-time video or images, and can also be used for video conferencing.

The webcam type may vary based on the selections you made while purchasing your computer. You may have a built-in webcam or you may need to buy an external webcam. External webcams connect to your computer using the USB connector. A camera quality is generally defined by the number of pixels it can capture.

---

***Related Information***

- [Setting Up Webcam](#)
- [Enabling a Disabled Webcam](#)




# Dell Webcam Manager

The Dell Webcam Manager acts as a hub for all the webcam features and configuration options. Dell Webcam Manager includes:

- **Webcam Center** — Control core recording functions of the webcam such as video recording, motion detection, and photo capture.
- **Webcam Console** — Configure webcam features like picture quality, face tracking, pan and zoom, audio and video effects, and so on.
- **Video Chat** — Video chat with popular instant messaging services such as Google Talk, Yahoo! Messenger, AOL Instant Messenger, and so on.
- **Live! Cam Avatar** — Select avatars for video chat, apply audio filters, or use emoticon style emotions with the video avatars.
- **Create Avatar** — Create a unique avatar using the Live! Cam Avatar Creator software for video chat.

## Access Dell Webcam Manager

1. Click **Start**  → **All Programs** or **Programs**.
2. Click **Dell Webcam** → **Dell Webcam Manager**.  
The **Dell Webcam Manager** window appears.

## Enable the Digital Array Microphone in the Dell Webcam Center

1. Click **Start**  → **All Programs** or **Programs**.
2. Click **Dell Webcam** → **Dell Webcam Manager**.  
**Dell Webcam Manager** window opens.
3. Click **Webcam Center**.
4. Click the drop-down arrow next to **Audio Source** and click **Digital Mic (Realtek High Definition Audio)** to enable the microphone.

---

### Related Information


- [Camera](#)
  - [Setting Up Your Webcam](#)
  - [Enabling a Disabled Webcam](#)
- 




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# Charging Laptop Battery

When you connect the computer with the battery installed to an electrical outlet, the computer checks the battery charge and temperature. If necessary, the AC adapter charges the battery and maintains the battery charge.

 **NOTE:** The AC adapter charges the battery even when the computer is turned off. The internal circuitry of the battery prevents the battery from overcharging.

If the battery is hot from being used in your computer or being in a hot environment, the battery may not charge when you connect the computer to an electrical outlet.

 **NOTE:** You can operate your computer while the battery is charging.

For laptop battery related FAQs, see the Article ID : 405686 at [support.dell.com](#).

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## Related Information

[Laptop Battery](#)  
[Improving the Battery Performance](#)


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# Dell Stage

The Dell Stage software installed on your computer provides access to your favorite media and multi-touch applications.

 **NOTE:** Dell Stage is not installed on all computers.


To launch Dell Stage, click **Start**  **→ All Programs → Dell Stage → Dell Stage.**

 **NOTE:** Some of the applications on Dell Stage can also be launched from the **All Programs** menu.

You can customize Dell Stage as follows:

Rearrange an application shortcut	Select and hold the application shortcut until it blinks and then drag the application shortcut to a desired location on Dell Stage
Minimize	Drag the Dell Stage window to the bottom of the screen
Personalize	Select the settings icon and then choose the desired option

The following applications are available on Dell Stage:

 **NOTE:** Some of the applications may not be available based on selections you made while purchasing your computer.

Music	Play music or browse through your music files by album, artist, or song title. You can also listen to radio stations from across the globe. The optional Napster application allows you to download songs when connected to the Internet.
Youpaint	Draw and edit pictures.
Games	Play touch-enabled games.
Documents	Provides quick access to the Documents folder on your computer.
Photo	View, organize, or edit your pictures. You can create slideshows and collections of your pictures and upload them to <b>Facebook</b> or <b>Flickr</b> when connected to the Internet.
Video	View videos. The optional CinemaNow application allows you to purchase or rent movies and TV shows when connected to the Internet.
Shortcuts	Provides quick access to your frequently-used programs.
Stickynotes	Create notes or reminders using the keyboard or touchscreen. These notes will appear on the bulletin board the next time you access Stickynotes. You can also save notes on your desktop.
Dell Web	Provides a preview of up to four of your favorite web pages. Click or tap the web page preview to open it in the web browser.
Web Tile	Provides a preview of up to four of your favorite web pages. This tile allows you to add, edit, or delete a web page preview. Click or tap the web page preview to open it in the web browser. You can also create multiple Web Tiles through the Apps Gallery.

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## Related Information

[Using a TouchScreen Display](#)  
[Touchscreen Display](#)  
[Touchscreen Gestures](#)



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## Types of IEEE 1394 Cables

4-pin connector



6-pin connector



9-pin connector



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### ***Related Information***

[IEEE 1394](#)

[Comparing USB and IEEE 1394](#)

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# Comparing USB and IEEE 1394

Feature	USB	IEEE 1394
Data transfer rate	USB 1.1: 12 Mbps USB 2.0: 480 Mbps	IEEE 1394a: 400 Mbps IEEE 1394b: 800 Mbps
Number of devices	127	63
Plug and play	Yes	Yes
Hot-pluggable	Yes	Yes
Isochronous devices	Yes	Yes
Bus type	Serial	Serial
Network topology	Hub	Daisy chain

---

## Related Information

- [IEEE 1394](#)
- [USB](#)
- [Types of IEEE 1394 Cables](#)

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## Enabling Computrace

1. Turn on (or restart) your computer.
2. When the DELL logo appears, press <F12> immediately.

 **NOTE:** If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop; then, shut down your computer and try again.

3. Select **Security** tab and then select **Computrace(R)**.
4. Select **Activate** to enable or **Deactivate** to disable the Computrace option.

 **NOTE:** Once you enable or disable the Computrace option in the BIOS settings, you will be unable to change this setting in future. This is to prevent from somebody else enabling or disabling this option.

 **NOTE:** You will need to install the Computrace software in Windows for the software to protect your computer.

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### ***Related Information***


[Computrace](#)  
[How to Get Help on Computrace](#)

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# Invoking PSA

1. Power-on or restart your computer.
2. When the Dell logo appears, press <F12> to access the Boot menu.  
 **NOTE:** If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop; then, shut down your computer and try again.
3. Select **Diagnostics** from the menu and press <Enter>.
4. During the assessment, answer any questions that appear on the screen.
  - o If a component fails the test, the computer stops and beeps. To stop the assessment and restart the computer, press <n>; to continue to the next test, press <y>; to retest the component that failed, press <r>.
  - o If you receive error code(s) during PSA, note the error code(s) and contact Dell.

If the PSA completes successfully, the following message appears on your screen:

"Do you want to run the remaining memory tests? This will take about 30 minutes or more. Do you want to continue? (Recommended)."

Press <y> to continue if you are experiencing memory issue, otherwise press <n> to finish PSA testing.

When you press <n>, the following message appears on the screen.

"Booting Dell Diagnostic Utility Partition. Press any key to continue."

5. Select **Exit** to reboot your computer.

---


## Related Information

- [Enhanced Pre-Boot System Assessment \(ePSA\)](#)
- [Invoking ePSA](#)
- [Beep Codes](#)
- [Getting Help and Contacting Dell](#)



# Enhanced PSA

You can use the Enhanced Pre-Boot System Assessment (ePSA) to diagnose various hardware problems. The ePSA tests devices such as the system board, keyboard, display, memory, hard drive, and so on.

 **NOTE:** Your computer may not support ePSA.

The ePSA home screen is divided into three areas:

- **Device Tree** — Appears on the left of the ePSA home screen. It displays all the devices in your computer and can be used to select devices.
- **Control** — Appears at the bottom-right of the ePSA home screen. Selecting the **Thorough Test Mode** check-box maximizes the intensity and length of the tests. To the left of the **Control** window is the completion bar that indicates the overall completion of the tests. To test selected devices, click **Run Tests** . To exit the ePSA and restart your computer, click **Exit**.
- **Status** — Appears on the right of the ePSA home screen.

The status area has four tabs:

- **Configuration** — Displays detailed configuration and status information about all devices under ePSA.
- **Results** — Displays all tests that are executed, their activity, and results for each test.
- **System Health** — Displays the status of the battery, AC adapter, fans, and so on.
- **Event Log** — Provides detailed information about all tests. The **Stat** column displays the status of the tests.

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## Related Information

- [Invoking ePSA](#)
  - [Invoking PSA](#)
  - [Beep Codes](#)
  - [Getting Help and Contacting Dell](#)
- 



# Invoking ePSA

To invoke ePSA:

1. Restart the computer.
2. When the DELL logo appears, press <F12> to access the Boot menu.  
 **NOTE:** If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop; then, shut down your computer and try again.
3. Select **Diagnostics** from the menu and press <Enter>.
4. During the assessment, answer any questions that appear on the screen.
  - o If a component fails the test, the ePSA displays an error message. To stop the assessment and enter the ePSA home screen, click **No**; to continue to the next test, click **Yes**; to retest the component that failed, press **Retry**.
  - o If you receive error code(s) during the ePSA tests, write down the error code(s) and contact Dell.

If the ePSA completes successfully, the following message appears:

"No problems have been found with this system so far. Do you want to run the remaining memory tests? This will take about 30 minutes or more. Do you want to continue? (Recommended)."

If you are experiencing memory issues, click **Yes**, otherwise press **No**.

The following message appears: "All tests passed."

If the ePSA completes with errors, the following message appears on your screen:

"Testing completed. One or more errors were detected."

Click the **Event Log** tab in the **Status Window** to see the errors that occurred during the ePSA tests.

5. Click **Exit** to restart your computer.

---


## Related Information

- [Enhanced Pre-Boot System Assessment \(ePSA\)](#)
- [Invoking PSA](#)
- [Beep Codes](#)
- [Getting Help and Contacting Dell](#)



# Beep Codes

Your computer might emit a series of beeps during start-up if there are errors or problems. This series of beeps, called a beep code, identifies a problem. If this occurs, note the beep code and contact Dell for assistance. The following table lists some of the common beep codes.

 **NOTE:** Some of the beep codes mentioned in the table below may not apply to your computer.

Beep Codes	Possible Problem
One	Possible system board failure—BIOS ROM checksum failure
Two	No RAM detected <b>NOTE:</b> If you installed or replaced the memory module, ensure that the memory module is seated properly.
Three	Possible system board failure—Chipset error
Four	RAM read/write failure
Five	Real Time Clock failure
Six	Video card or chip failure
Seven	Processor failure <b>NOTE:</b> This beep code is supported for computers with Intel processor only.
Eight	Display failure

---

## Related Information

- [Invoking PSA](#)
- [Enhanced Pre-Boot System Assessment \(PSA\)](#)
- [Getting Help and Contacting Dell](#)



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# Locating the Service Tag and Express-Service Code

You can locate the Service Tag and the Express-Service Code of your computer either on the label on the computer, or using the using the Dell's online System Profiler.

## Locating the Label on Your Computer

The Service Tag and the Express-Service Code is located on a label on your computer. The location on the label is:

- Portable computers: Bottom of the portable computer
- Desktop computer: Back or top of the computer chassis

## Using Dell's Online System Profiler

If your computer is powered on and you have access to the Internet, you can use Dell's online System Profiler to scan for the Service Tag and Express-Service code. To scan for the Service Tag follow the steps below:

- Go to **support.dell.com**.
- Click **System Configuration**.
- Click **Find My Service Tag** and follow the instructions on the screen.

---

### ***Related Information***

[Getting Help and Contacting Dell](#)


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# Configuring the Power Settings in Windows 7

To configure the power settings in Windows 7:

1. Click **Start**  → **Control Panel** → **Power Options**.
2. You can choose from **Balanced**, **Power saver**, or **High performance** depending on your computer usage.
3. To modify the power settings, click **Change plan settings**.

---

## ***Related Information***

[Power Management](#)

[Dell Quickset](#)


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---

## Related Information

- [Invoking PSA](#)
- [Enhanced Pre-Boot System Assessment \(PSA\)](#)
- [Getting Help and Contacting Dell](#)

